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ON THE COVER

A 1,585-ft tunnel links a Canadian bottling plant with its two brewing plants. The tunnel, a 5-mile conveyor, plus a palletized handling system which utilizes fork trucks, has enabled Dow Breweries to close down three modern bottling plants and cut wages in half (See Page 20).



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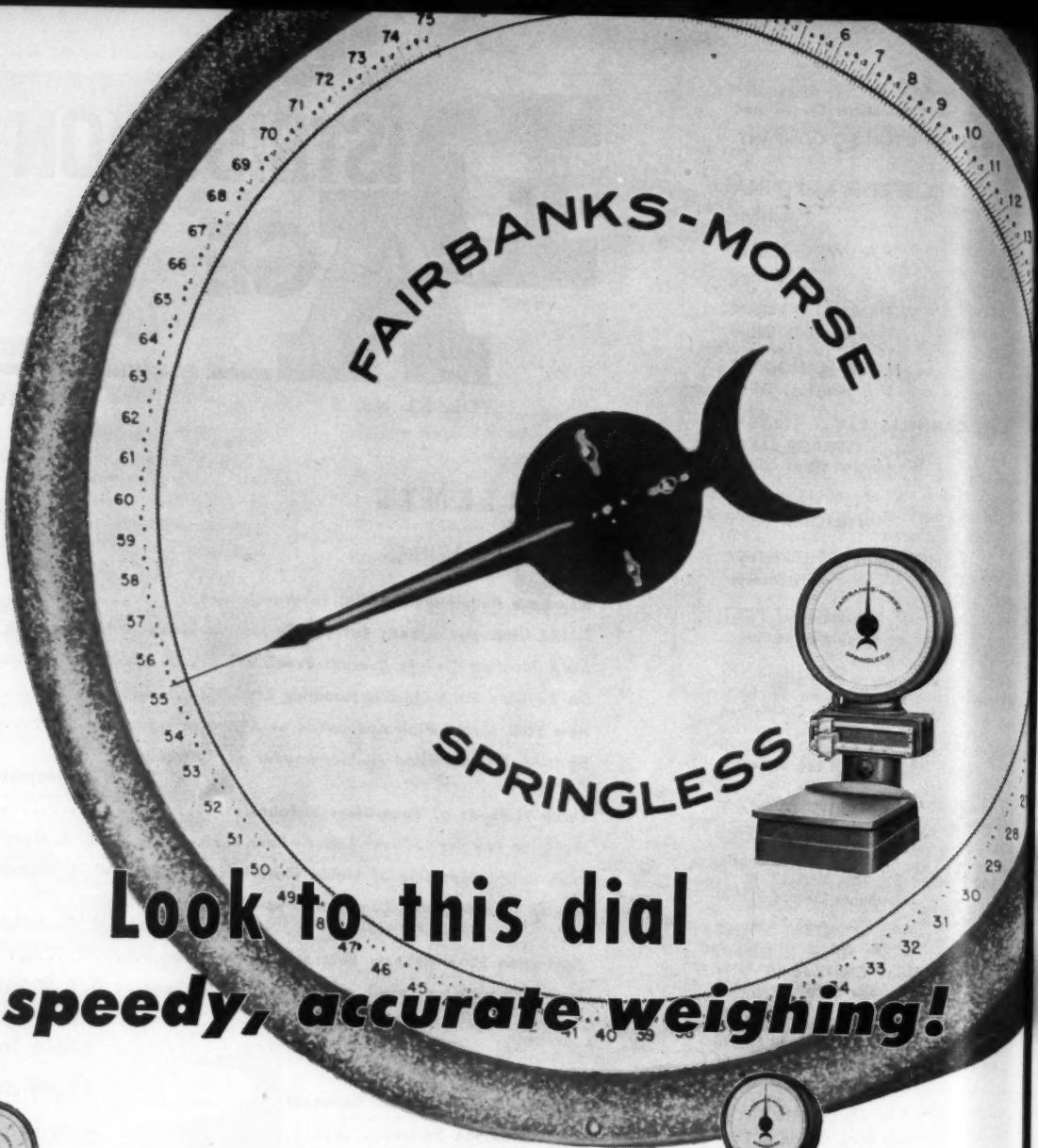
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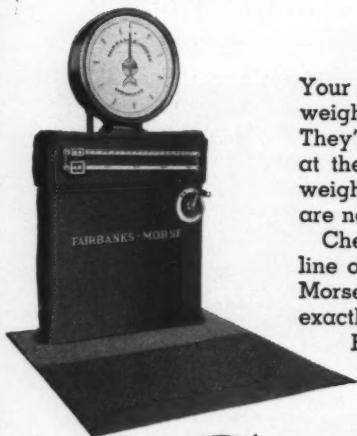
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On the Line DA

EDITORIAL COMMENT

"Stra-a-ange Things . . ."

"Stra-a-ange things are happening . . ."

Recognize this quotation? Uttered by Red Buttons, the young TV comedian, it produces an hilarious reaction.

With sincere apologies to Red, we wish to develop a more sombre effect because, paradoxically, a comparably farcical situation has been created by the enemies of our way of life.

As soon as arrangements for prisoner exchange seemed a certainty, and especially when Korean peace chants hit the Sino-Soviet propaganda channels, strange things began to happen: The stock market got "bearish" . . . Business men descended upon, burned the wires to, Washington.

"What about those contracts? Will these orders be cancelled? Does this mean cutbacks?"

These and similar questions echoed in market places all over the country.

In Moscow and satellite capitals, there echoed the jubilant "Ho, ho . . . ha, ha . . . he, he . . . that Red Buttons uses to set the stage and create the mood for jokes and comic situations that "send" his audiences.

"Stra-a-ange things . . ."

"Wall Street shivers with fear at the news of possible peace in Korea," blasts the *Daily Worker*.

"Stra-a-ange things . . ." They just never will understand those Yankee skippers. They see them scurrying, taking bearings, reefing the sails of the Freedom Fleet. They mistake this for panic.

The flagship Free Enterprise, especially, presents an enigma to the Volga boatmen and the Chinese junkers. They see her burdened with goods for all parts of the free world. They expect her to flounder with every change of the false propaganda wind.

Little do they know that as we scurry up the shrouds to reef the mains'l when treacherous winds shift, we're also on hand to break out the tops'l, the flyin' jib—all the canvas—to keep our great ships of industry on course to greater horizons.

They think we're worried about losing defense business. Maybe we are—but not the way they think.

Our skippers are ready to put countless peacetime products through their plants when defense production stops. They're taking soundings now to avoid unnecessary layoffs, closed plants, depression.

When the time comes to break out all sails, the amazed enemy will groan, "Stra-a-ange things . . ."

All free men will chorus "Ha, ha . . . ho, ho . . ."

Yakkety Yak

Freedom is like a millstream; useful when it is deep and strong, useless when dry or reduced to a trickle.

. . . BAN MAIL: Top topic of mail dropped in White House mail slot is tax reduction. "Cut taxes now, to blazes with balanced budget," majority demand.

. . . Last part of quote is top topic around our house, too.

. . . In light of White House mail, it can be appreciated what courage was required by President Eisenhower to plead for a balanced budget and sound dollar in his radio talk May 19.

. . . HOT RUDDER: Germans have developed a rudder with built-in electric motor and auxiliary propeller for docking boats without tugs.

. . . RAIL LOSS: Diversion of fresh fruit and vegetables from rails to trucks, from 1948 to 1951, equalled 12,000 carloads or 5 per cent of total 1951 loads.

. . . Reason: Increases in railroad freight rates.

. . . Source: Bulletin published by U.S. Department of Agriculture entitled, "Trucks Haul Increased Share of Fruit and Vegetable Traffic," released in April.

. . . HIDES OF MARCH? A surplus of 2 million hides is expected by leather manufacturers this year. So that's where the Bureau of Internal Revenue sent our remittance with Form 1040!



Editor

LETTERS

TO THE EDITOR

April Kudos

To The Editor:

Your announcement with regard to the April issue of DISTRIBUTION AGE was read with interest and, needless to say, with some speculation as to what new treatment could be projected to editorialize the Materials Handling industry.

Congratulations on an outstanding job. It reflects sound planning, infinite research with an intelligent presentation.

The April DISTRIBUTION AGE is a most commendable issue and should be a handbook for all materials handling engineers and salesmen.

R. H. DeNike
Sales Manager

Bronco Rubber Products Co.
Los Angeles, Cal.

. . . your editorial coverage on the Materials Handling industry, and especially the specifications section on industrial trucks, was a gargantuan job well done.

John A. Baldinger
General Manager
Automatic Transportation Co.
Chicago, Ill.

. . . you are to be congratulated on doing one of the best editorial jobs that I have ever seen done in the Materials Handling industry.

J. E. Borendame
Manager of Sales Promotion
Acme Steel Co.
Chicago, Ill.

. . . you did an excellent job for the Materials Handling industry in your April issue.

John G. Bucuss
President
Acme Steel Products Div.
Acme Steel Co.
Chicago, Ill.

. . . I feel that I must give you the proverbial pat on the back for the very fine Materials Handling Edition you have incorporated into your April issue. I think you and your staff have every reason to be proud of the information that you have collected.

G. M. Bassnett
President
Coles Cranes, Inc.
Joliet, Ill.

Thoughtful comments such as the above have been coming in a steady stream since the April issue was mailed. The entire DA staff is ap-

reciative of the manner in which our April book has been received. For information on how to obtain extra copies of the DA Master Chart and Guide, and Industrial Truck Specifications, see the Books section on Page 37 in this issue of DISTRIBUTION AGE.—Ed.

Warehouse Taxation

To The Editor:

In the March, 1952, issue, Page 8, Mr. Parker stated that a comprehensive review of higher court cases on the subject of taxation of warehoused merchandise would appear in an early issue.

Would you please advise in which issue this report was published? Incidentally, we enjoy all issues a great deal and obtain wonderful benefit from the articles therein.

Paul G. Stallings
Traffic Manager
Pollock Paper Corp.
Dallas, Texas

I have made a very careful review of past articles in DISTRIBUTION AGE. You will find discussions on tax law in the August, 1952, issue on pages 62 and 96. However, I am now collecting late and leading higher court cases on all phases of the tax law, as related to warehoused merchandise, and this article will appear sometime in the future. I cannot at this time give you the date, as I have other cases to report, as same are reported in the Advance Sheets in the future.—Leo T. Parker, Legal Consultant.

Concealed Damage

To The Editor:

Do you have any cases concerning the liabilities of a warehouse for concealed damage. We would greatly appreciate your forwarding us copies of these cases or advising where we might obtain copies.

Basil Weiss
General Manager
Pitt-Penn Terminal Co.
Pittsburgh, Pa.

After reviewing my records and listed higher court decisions my opinion is as follows:

The matter of concealed damages is not often before the higher courts. However, it is my opinion, although I have no cases at hand, that the warehouseman's liability would not be changed except on the basis of fraud, if it could be proved.

I assure you that when reviewing and listing higher court decisions in the future, I shall make special effort to locate the case in which you are particularly interested. As soon as I locate the new higher court decision, I shall again write you.—Leo T. Parker, Legal Consultant.

More Intra or Inter

To The Editor:

On Page 98 of the December issue of DA we find a letter published headed "Intra or Inter" in which a question is asked relative to the character of freight in pool cars originating at Eastern cities consigned to St. Louis. In the letter it is stated that the cars are completely unloaded at St. Louis and "the material shipped later, usually in less truckload lots to our Missouri factory points."

The letter goes on to state "Much of the freight loaded in these pool cars is marked for our factory points which would in some respect cause them to be identified as interstate shipments." (Emphasis supplied.) The question posed by the writer of the letter is whether such marked shipments, when forwarded from the St. Louis warehouse to other points in Missouri, are interstate or intra-state shipments.

Your answer to the question posed is that "After the car is unloaded by your company, and you take possession of the goods for distribution, the interstate character of the shipment is lost."

Your answer is exactly the opposite to our understanding of this matter for a long period of years bearing in mind that the writer of the letter said that part of the shipments were marked for towns in Missouri other than St. Louis. It was, therefore, the intention of the shipper, or owner of the shipments, that those marked shipments would move from the point of origin to St. Louis, where they would stop temporarily and then be forwarded by other means of transportation to the place for which they were marked.

It has always been our understanding that "where there is an original and continuing intention that the goods shall move through from point of origin to an interstate destination, the transportation is interstate in character. It is not the method of transportation but the continuity of the movement from a point in one state to a point in another state which determines whether traffic is interstate or intrastate."

(Please Turn to Page 74)

Chuting the NEWS

Chain Store Traffic League Names Cody President, Opposes HR-4503

J. M. Cody was elected president of the Chain Store Traffic League at the Annual Meeting in New Orleans, La., May 6-9. In its opening session the league also went on record as opposing HR-4503.

Other officers elected were: James M. Dill, Eastern vice president; E. Holvoe, Western vice president; Grant Moran, Southwestern vice president, and F. M. Daly, secretary-treasurer.

The traffic managers discussed railroad LCL service, Railway Express increases, and the future status of freight claims, parcel post and freight forwarders.

—DA—

Driver of the Year

S. R. Burkholder, Sparks, Nev., who has driven commercial vehicles for 27 years without an accident and who has risked his life several times to save motorists injured in crashes, has been named the trucking industry's Driver of the Year, according to an announcement by ATA, contest sponsors.



65-Year Award is presented to Wm. O. Hildreth, 88, second from right, for his membership in the ASE by G. I. Vincent, representative of the organization. He is an alumnus of MIT and a veteran of Lamson Corp.

—DA—

MHI Moves Office

The Materials Handling Institute has announced that, effective May 1, the office address has been changed to 813 Clark Bldg., Pittsburgh 22, Pa.

(Please Turn Page)

Coming Events

- June 2—Texas Industrial Traffic League, Dallas, Tex.
- June 2-4—Accounting Division AAR, Annual Meeting, Chicago, Ill.
- June 2-4—Safety Section, AAR, St. Louis, Mo.
- June 15-19—Exposition of Basic Materials for Industry, Grand Central Palace, New York, N. Y.
- June 21-26—C.W.A. Convention, Royal Alexandra Hotel, Winnipeg, Canada.
- June 22-26—Mechanical Div., AAR, Atlantic City, N. J.
- June 23—American Short Line Railroad Association, Membership Meeting, Atlantic City, N. J.

- June 23-26—National Freight Claim Council, ATA, Minneapolis, Minn.
- June 24-26—Electrical Section of the Engineering and Mechanical Divisions, AAR, Atlantic City, N. J.
- Aug. 9-11—Annual Assembly, Movers Conference of America, Sheraton Hotel, Chicago, Ill.
- Sept. 10-11—American Society of Traffic & Transportation, Biennial Seminar, Pittsburgh, Pa.
- Sept. 15-19—1953 ATA National Truck "Rodeo," Minnesota State Fairground, Minneapolis-St. Paul, Minn.
- Sept. 19-23—Local Cartage National Conference, Annual Convention, St. Louis, Mo.
- Sept. 21-23—Convention of the Truck Body and Equipment Association, Hotel Sheraton-Gibson, Cincinnati, Ohio.
- Oct. 6-8—Fourth Industrial Exposition, William Penn Hotel, Pittsburgh, Pa.
- Oct. 12-14—Packaging Institute 15th Annual Forum, Hotel Statler, N. Y.
- Oct. 20-22—Society of Industrial Packaging and Materials Handling Engineers, Exposition, Boston, Mass.
- Oct. 26-30—ATA, Annual Convention, Los Angeles, Cal. (Conference Meeting, Oct. 26-27).
- Nov. 1-7—Packaging Association of Canada, Annual Convention, Toronto, Canada.

Chuting the News

(Continued from preceding page)

For late AWA Convention news see Page 23; Handling Show, Page 24; ATA Spring Meeting, Page 27; AMA Show, Page 46

Truck-Trailer Manufacturers Association Predicts Fourth Year of 'Good Business'

A fourth good year is in prospect for the truck-trailer manufacturing industry as more and more shippers recognize the economy and efficiency of commercial highway transportation, according to W. E. Grace, president, Truck-Trailer Manufacturers Association.

Grace presided at a recent meeting of the Board of Directors of

TTMA in Chicago. Commenting on the current healthy demand for truck-trailers, he recalled that approximately 190,000 civilian type truck-trailers had been manufactured in the years 1950, 1951 and 1952, and that all indications are that production this year will be at least as great as that of last year when 58,000 units were produced.

—DA—

Harvey Fruehauf Retires

The retirement of Harvey C. Fruehauf, Chairman of the Board of Directors of Fruehauf Trailer Co. since 1949, was announced May 7 by Roy Fruehauf, president, at the Directors' meeting following the annual Fruehauf stockholders' meeting at the Fruehauf Technical Institute.

Harvey Fruehauf, who joined the trailer manufacturing firm in 1915 and served from 1930 to 1949 as president, is retiring because of health. He will continue to serve as a director and will hold the title of honorary chairman of the company.

NHUC Names Supervisors

Cecil E. Fausch has been named Midwestern States supervisor by the National Highway Users Conference, and Lloyd C. Hanson has been named regional representative for the North Central Region.

—DA—

Associations Merge

The Refrigeration Equipment Manufacturers Association and the Air Conditioning and Refrigeration Machinery Association have merged to form the Airconditioning and Refrigeration Institute.



Clark's 150,000th fork truck is being inspected as it leaves the assembly line by (l. to r.) R. H. Davies, vice president in charge of production, W. E. Schirmer, vice president in charge of industrial truck sales, and George Spatta, president. Clark produced its first truck in 1919 and in the past 12 years manufactured 140,000 units —14 times more than first 20 years

Delta-C & S Merger Effective May 1

When completion of all legal details of the Delta-C&S Air Lines merger flashed over the company's teletype at 10:25 a. m. May 1, a simultaneous conversion was effected throughout the system in a matter of minutes.

Joint signs quickly went up on ticket office windows, posters were set up on terminal ticket counters, agents produced large buttons on uniform jackets announcing "Yes, now it's Delta-C&S," flight crews announced the merger to passengers aboard flights, reservations agents started answering telephone calls with "Good morning, Delta-C&S Air Lines," and passengers found that old route maps on ticket office walls had suddenly been changed to include 61 cities served by the combined company in the United States and Caribbean area.

Although the merger was approved by the CAB Dec. 31, 1952, stockholders did not vote on it until April 22, 1953. An overwhelming vote in favor of the merger was the go-ahead signal, and everything had to be prepared between that time and May 1 when final legal details were completed.

—DA—

The committee on statistics of the AAR has approved and is planning to print a "Railway Statistical Manual."



A behind-the-scenes look at the truck industry was afforded this group of Ohio State University industrial engineering students, who toured the plant of The White Motor Co., Cleveland, Ohio. Headed by faculty advisers Dr. Eugene Richman and Dr. Loring G. Mitten, the group was conducted on the inspection trip by White's J. N. Bauman, vice president in charge of sales

MEN IN THE NEWS

Materials Handling

George N. Volz, appointed Osgood - General division sales manager for the northwestern states and provinces of Canada. He was formerly associated with John Roebling Co.



Robert H. Helm—appointed sales manager of the New York branch office of Yale & Towne Mfg. Co.

James N. Wognum—named chief engineer of Acme Steel Company's newly created engineering research laboratory, Chicago, Ill.

C. S. Davis, Jr.—elected a member of the board of directors, Borg-Warner Corp.

Dale McKee—elected vice-president of engineering, Baker-Lull Corp. Succeeding him as chief engineer is William Norland. Lloyd Pennington—named assistant secretary; William Delaney—service manager; David Hansen—national sales manager; Clarence J. Bornholdt—factory manager; Charles Strauch—manager of Traveloader sales.

Marsh B. Hall—appointed chief engineer, Acme Steel Co.; Willard S. Collins—assistant chief engineer of the development and research engineering dept.

John W. Senger—promoted to the position of purchasing agent, Hyster Company's Danville, Ill., plant; Jack Cavanaugh—assistant purchasing agent.

Walter F. Hinckle, appointed director of engineering and research at Acme Steel Co. In this capacity he will direct all engineering activities of the company.



David T. Lane—elected vice-president in charge of sales, Lane Container Corp.

H. R. Lobdell—appointed vice-president in charge of production and field service, Machinery Mfg. Co., Inc.

Traffic

W. C. Somerville, A. M. Smith, and Anthony De Rouen—appointed general traffic managers, Celanese Corp. of America.

(Please Turn to Page 80)



Representatives of education and N. J. industry meet at Third Annual Materials Handling Forum, Stevens Institute of Technology, Hoboken, N. J. Above are moderators and officials of the forum, jointly sponsored by Stevens and the N. J. chapter of AMHS. L. to r., front row: Dean Waldo Shumway, Stevens; Arthur Lesser, Jr., Stevens; J. Wellings Hall, Westinghouse Electric Corp.; Davis C. Greene, Rapistan; Chatham; second row, A. J. Van Benschoten, Raybestos Manhattan Co.; Allen Spinner, Stevens; R. H. Graves, U. S. Metals Refining Co.; Adam Abruzzi, Stevens; third row, H. W. Underwood, Jr., Mack Manufacturing Corp.; Eugene Fezandie, Stevens; Maynard C. Isett, American Stores Co.; Sidney F. Borg, Stevens

Diamond Jubilee

Brooks Warehouse Corp., Richmond, Va., this year is celebrating its 75th anniversary. J. W. Brooks founded the firm in 1878, and it has remained in the Brooks family since that time. C. Fair Brooks is the present president.

—DA—

Southeastern NARW Elects

Howard K. Upham was elected chairman of the Southeastern chapter of the NARW at the recent annual meeting. Gilbert Stecker is the new vice chairman, and Thomas B. Buck, Jr., secretary-treasurer.



J. D. Crichton (left), airport engineer for United Air Lines, points out features of airdock he designed to speed loading and unloading of airline passengers and cargo. W. A. Patterson (center), president of United, and D. F. Magarrell, vice president transportation services, are noting its time and cost-saving facilities for both cargo and passengers.

(Please Turn to Page 69)

CRC Names Daniel

Fred Daniel, Mid-State Freight Lines, Chicago, has been elected chairman of the Customer Relations Council of the American Trucking Associations. E. G. Lackey, Pilot Freight Carriers, Winston-Salem, N. C., was elected vice chairman. The planning committee is headed by William S. Myrin, Consolidated Freightways, Inc., of Portland, Ore.

—DA—

MH Group Formed

A new materials handling group, the Industrial Lift and Loading Ramp Institute, has been organized. David Laine, secretary-treasurer, has announced that the new group can be contacted at 366 Madison Ave., New York, N. Y.

—DA—

Customs Brokers Meet To Elect Officers

The annual meeting and election of officers of the Customs Brokers and Forwarders Association of America will be conducted in New York early this month. The nominating committee has prepared the following slate: Martin A. Kerner, president; Harry M. Moran and Samuel Shapiro, vice presidents; William I. Freedman, secretary, and Gilbert M. Colombo, treasurer.

(Please Turn to Page 80)



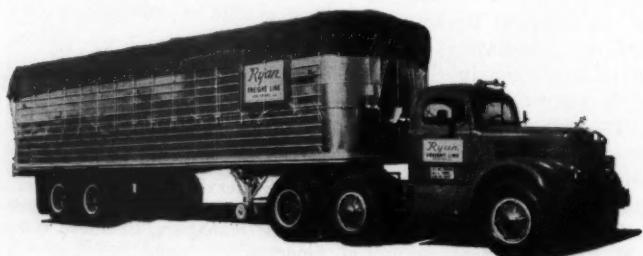
"just floats along
and it is the easiest pulling trailer in the fleet"

Whether you haul dry freight, fresh produce or refrigerated cargo you'll find it pays to depend on Dorsey Vans, with the easy-pulling Dorsey tandem. This exclusive undercarriage is piling up economy records on all types of Dorsey Trailers, and on all road conditions. Maximum tire mileage and trouble-free operation are achieved by the fact that all four radius rods pull, which tends to hold alignment.

Adjustment is simple and easy. The tandem requires no lubrication.

Tandem design was a big factor in the selection of Dorsey by Steve Ryan, president of Ryan Freight Lines of Rockford, Ill. Here's a trailer that "just floats along . . . is the easiest pulling in our fleet," Mr. Ryan says.

Dorsey Trailer Sales of Rockford is one of the network of DORSEY distributors. SEE YOUR CLASSIFIED DIRECTORY.



**DORSEY TRAILERS
ELBA, ALABAMA**

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Washington DA

By Karl Rannells, Chilton Washington News Bureau

Defense Spending

Neither a Korean truce nor the White House plan to whack \$6 billion from the military budget will have much long run effect on defense expenditures. A Korean cease-fire would mean only savings of hot ammunition and those related items which are normally chewed-up in combat. Troop strength and its normal needs wouldn't change much.

As for the budget cut, not much of the reduction would fall on production and distribution of mobilization goods. Biggest change is in policy. This means that the mobilization program will be further stretched out with some shift in the type of materials produced—that is, attention will be centered more on essential items first.

Actually, there is a backlog of \$81 billion in defense orders which is in process for completion and delivery over the coming couple of years. Added to this, of course, will be 1954 appropriations and those for 1955—a sizable cushion against any recession trend.

Materials Handling

Backing up its own belief in continued high production levels, the ODM believes that manufacturers of materials handling equipment will have to increase 1950 plant capacity by one-fourth if the industry is to be able to meet demands by end of 1954.

The government figures the industry had something like \$125 million worth of capital equipment at the end of 1950. Last year, planning officials calculated that another \$26 million would have to be put into production equipment. But ODM took another look last month and said the estimate had been too low, that the figure should have been \$30 million. This means that certificates of necessity are being issued to increase total industry investment to \$155 million.

Facility Groupings

This additional \$30 million worth of expansion includes only major categories such as industrial trucks and tractors, forklifts, conveyor systems, and varied types of hoists, cranes, etc. It does not include such products as ammunition boxes, steel drums, and other fringe items. Several of these have their own individual expansion goals.

Biggest need for post-1950 expansion seems to have been additional capacity for industrial trucks and tractors. Second biggest need has been for conveyor equipment capacity.

Under present goals, ODM says it is issuing certificates of necessity and tax amortization for \$14 million worth of industrial truck and tractor capacity. Figure for powered conveyor systems has been set at \$9 million. Another \$6 million will be issued for overhead traveling cranes. The remaining \$1 million is to be split among other types.

Improved Statistics

Few figures have been worked out as to what is required in the way of actual unit production for the future. Main reason is that the government has been slow to recognize the importance of the materials handling industry until recently. It now finds that since beginning of trouble in Korea, the industry has climbed into the billion-dollar group. Statistics now indicate the current rate at hovering around \$1.2 billion a year.

In the past, Census Bureau information has been incomplete in coverage. Statistics compiled by WPB were lost in the reconversion shuffle. Commerce Department hopes to change the situation.

Present plan is to set up a small materials handling section when the present NPA is absorbed by the Bureau of Production, Distribution, and Economics which is being set up within the Commerce Department. This would assure preservation of valuable statistics assembled over the past two years.

Government Warehouses

Commercial warehouses are likely to lose some \$6,000,000 a year in government contracts. Only roadblock will be refusal of Congress to grant \$28,000,000 to GSA to construct an additional 4,000,000 square feet of warehousing space. This amount, says GSA, will permit rounding out of its warehousing program.

Currently, GSA has more than 600,000 tons of stockpile materials in dead storage with commercial warehouses, costing on an average about \$10.52 a year. As the government's housekeeper, GSA wants to get all stockpile storage under government roofs where the storage figure would run about \$1 a ton per year.

Cargo Vessel Construction

Indications are that another 12 months will see completion of the government's program for building 35 dry cargo vessels of the high speed mariner class. Maritime Administration of-

(Please Turn to Page 65)

75 years young...

BROOKS TRANSFER

picks newest White Truck for finest kind of service



KNOWN throughout the East as a leader in the transportation industry, Brooks Transfer & Storage Company, of Richmond, Va., calls on another leader to help observe its 75th birthday—this handsome, new White 3000.

Truck operators everywhere like the modern efficiency of this new kind of truck that does more work . . . in less time . . . at lowest cost.

Its power-lift cab saves maintenance time and cost. Its functional design saves driving time . . . adds extra payload capacity. Drivers like its maneuverability, visibility and safety features.

In every way, it is tomorrow's truck . . . today. Find out from your White Representative how the White Specialized Design costs less . . . earns more in your business.



FOR MORE THAN 50 YEARS
THE GREATEST NAME IN TRUCKS

THE WHITE MOTOR COMPANY • Cleveland 1, Ohio

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"Ship By Brooks" is one of the oldest slogans in the nation's truck industry. Three companies now operate under the Brooks banner, with a fleet of efficient White Trucks in service day and night. Son of the founder is C. Fair Brooks, seated, with C. Fair Brooks, Jr., standing, adding the third generation to the Brooks organization.



Brooks now operates its own packing business for overseas shipping, so "Ship By Brooks" now means 'cross town,' 'cross country,' or 'round the world.'

Insurance Requirements Vital to Warehouses

**Chapter from new book entitled 'Covages and Forms'
answers insurance questions asked by warehousemen**

SPECTATOR magazine, a publication of the Chilton Co., has granted DISTRIBUTION AGE exclusive rights to publish in advance certain basic insurance facts for warehousemen.

These facts constitute an entire chapter in a soon-to-be-published book entitled "Covages and Forms." Staff written, Spectator's new book lists among other things insurance requirements by types of industry. This section includes the chapter on warehouses, which follows:

Fire and Damage

1. Fire and Material Damage Insurance — Fire and Material damage coverages are necessary to cover property of warehousemen; such as:

a. The building, if owned by the warehousemen, include vaults under this item.

b. Furniture, fixtures and equipment used in the maintenance of the warehouse. Improvement to the building may be substantial if vaults have been installed by the insured as tenant.

c. Merchandise which has become property of the warehousemen because of failure of the customer to pay storage charges. The value of this property generally fluctuates from time to time. Many warehousemen operate stores with-

in the building or elsewhere to sell second-hand furniture or other property seized for non-payment of charges. Others conduct periodic auctions in order to dispose of such merchandise.

d. Accrued charges may be insured. Warehousemen generally extend credit to their customers. A build-up of five or six months' storage charges is not unusual. If the stored property is destroyed by fire, it is unlikely that the accumulated charges will be paid without recourse to litigation. The Accrued Charges policy is designed to indemnify the proprietor for such unpaid storage fees. The policy usually contains a special clause which requires the insured to authorize or institute the necessary legal steps which might enable the company to recover from the owners of destroyed merchandise the accumulated storage fees for which indemnity was paid. All legal and litigation costs are paid by the Insurance Company.

Legal Liability

2. Legal Liability Forms—There are a number of Legal Liability policies which may be purchased by warehousemen and these are:

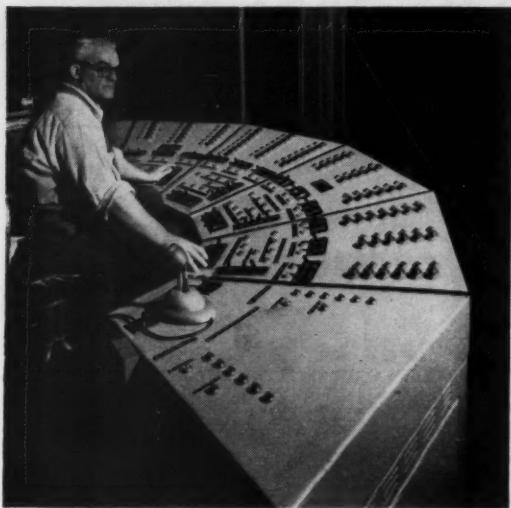
a. Fire Legal Liability—Fire damage to stored property which may be traced to negligence on

the part of the proprietor or his employees will result in numerous suits by customers and/or their insurers to recover to the extent of the loss incurred. Warehousemen's Fire Legal Liability Insurance is designed to indemnify the warehousemen against such claims and will pay all litigation costs incurred in the defense of these suits and pay any judgments rendered;

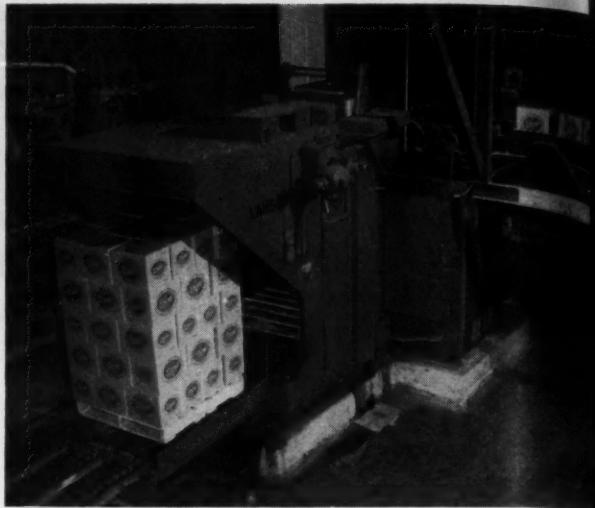
b. Errors and Omissions—The Errors and Omissions form generally applies only to those warehousing firms that maintain two or more storage premises. When the customer's furniture or other property is picked up by the warehousemen's truck, the driver or manager will designate the building in which it will be stored and the customer will insure his property at this location. Conditions may require that the property be stored in other than designated building, perhaps without prior notice to the owner. If it is damaged or destroyed by fire, the customer will be without insurance protection. The Warehouseman's Errors and Omissions policy will provide reimbursement under such circumstances;

c. Sprinkler Leakage Legal Liability—Many modern warehouses have been equipped with sprinkler

(Please Turn to Page 60)



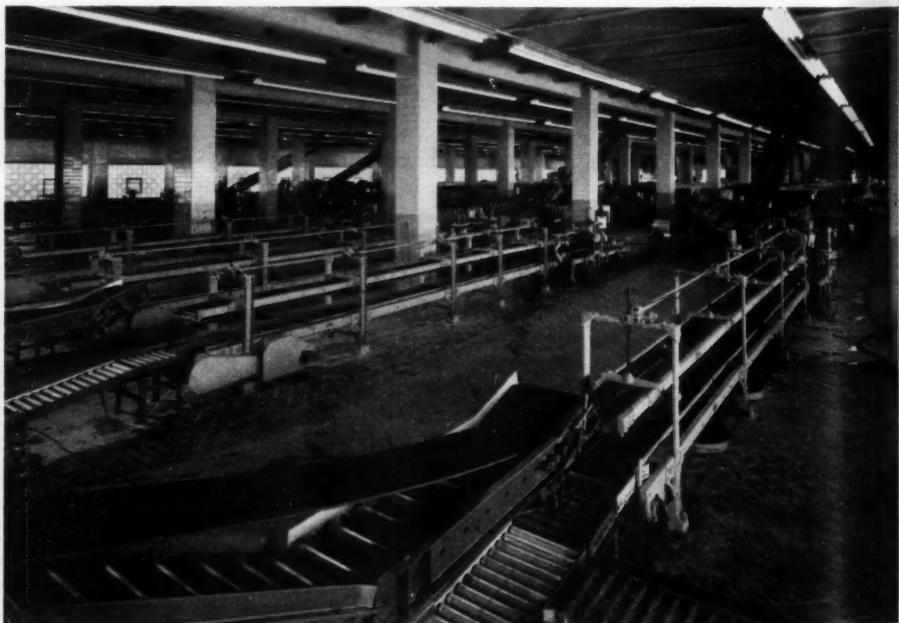
From basement control panel operator can spot condition of all lines and re-route immediately



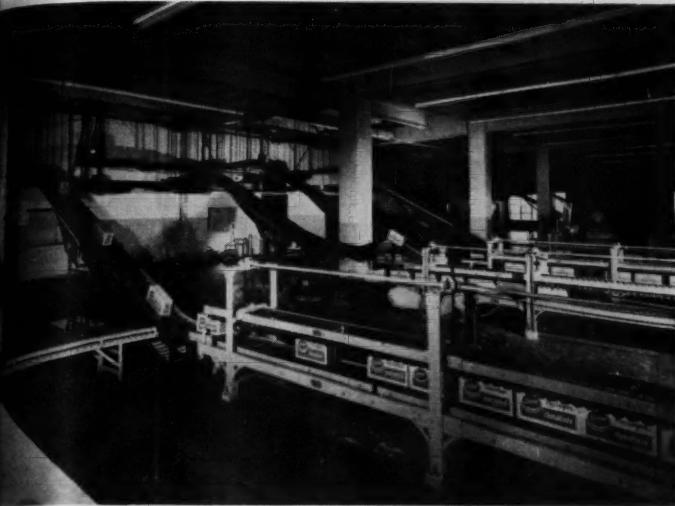
Automatic pallet loader stacks cartons on pallets in any desired pattern. Note the three-tier stacks in the background.

5-Mile Conveyor Speeds Be

Push-button conveyor system complemented by completely palletized fork



In foreground, note take-off for routing "fulls" either overhead via street overpass to freight terminal or to full goods storage floors



A portion of "fulls" conveyor system for taking goods into storage on second floor. Cartons used are Gaylord's new suitcase slenders

By Michael M. Gutwillig

unit loads by Skylift Automatic fork trucks or by hand-drawn Yale Work savers. From floor to floor, the Mathews conveyor completes a handling job not attainable by elevator or any other means.

Pallet Loading

An innovation in the unit load handling is the Lamson Pallet Loader, thought to be the first automatic palletizing machine in Canada. The loader processes 1,200 cases, or about 30 pallets, an hour and does the work of three men with a single part-time operator standing by.

Full cartons arrive along a conveyor feeding into the top of the palletizer. As the carton enters the loader, it is counted off by an electric eye which at the same time actuates a brake and levers. The carton is automatically positioned on a pallet according to a predetermined pattern (a variety of patterns are possible); for perfect interlocking, the pattern is automatically reversed for each of five layers.

Empty pallets inducted at one end are successively drawn "off the bottom of the deck" by the machine. Full pallets are ejected from the opposite side of the loader onto a waiting lift-truck.

Conveyor System

The conveyor system is in reality two systems: One for returning empties and another for delivering fulls. Together, they completely circumscribe the bottling house, reaching into every processing operation.

The empties system first meets the 24-truck dock positions and the freight terminal opposite the Dow plant. From the truck docks, ten downfeed conveyor units run to basement storage lines. There are provisions for installing two additional downfeed units. To the south end of the basement, there are three double-deck storage conveyor lines. At the north end,

(Please Turn Page)

Dow Bottling Operation

fork truck operation and 1,585-ft underground tube

A CENTRALIZED bottling operation at Dow Brewery Ltd., Montreal, Canada, has enabled the firm to shut down three outmoded bottling plants, cut wages in half, consolidate administration in a single building, and exercise complete control over production.

The new operation features a 5-mile conveyor system which is almost completely powerized, a 1,585-ft tunnel from two brewing plants to the bottling house, automatic pallet loading in a completely palletized-fork truck operation, and an elaborate street overpass to Dow's freight terminal.

The Tunnel

Ironically, the large tunnel was completed while Montreal residents were pressuring for a long-sought

subway system. The 1,585-ft tube is called the largest private tunneling operation ever undertaken in Montreal.

While the intricate conveyor system remains the star of the show, Dow management is convinced that it would be an economic flop, were it not complemented by the palletized-fork truck procedure.

A completely conveyorized installation was considered, but the 8-ft ceiling height would have necessitated a building considerably higher than the 4-floor plant now in use, and much more conveyor equipment than the present system calls for. Fork trucks and pallets allow for 3-tier stacking with an 18-ft ceiling height.

Movement of goods within a department on a single floor is in

5-Mile Conveyor

(Continued from Preceding Page)

there are an additional two double-deckers, with provision for a third.

On an elevated platform in the basement an operator mans the main control panel. The green and red lights on his board reflect the status of each unit on the conveyor system. At a glance, the operator can spot how far back each leg of the conveyor is filled. Each storage line on the system is equipped with limit switch protection and air-operated stops. These conveyor lines are so merged through traffic controls that the operator of this overhead panel can draw from any line.

From his lines, the operator feeds down to four inspection stations that line the center of the basement. Empties can either be removed and taken into basement storage or they can be routed directly via conveyors to soaker-charging on the fourth floor.

Peaks and Valleys

The great saving that comes through the conveyor is from the manner in which it levels out peaks and valleys of loading. Many more men would have been needed to handle the storage factor on basement lines.

Running up to the soakers on the fourth floor are the triple-deck conveyor lines. Each of the three levels can be fed from the inspection conveyor and runs by means of traffic controls and three-position hinged belt conveyors.

Empties can also be switched off a triple-deck line at the second floor where a storage area accommodates excess empties during heavy-return seasons. This second-floor take-off is also reversible so that cases of empties can be switched back onto the triple-deck line for soaker feeding.

On the fourth floor, these triple-deck lines are geared to feed soakers on lines 1, 2, 4 and 5, with provision for accommodating lines 3 and 6, at present termed future bottling lines.



Dramatic interior view of the street overpass shows double-deck conveyors carrying full goods to freight terminal for shipping

At the freight terminal, full cartons are immediately loaded on pallets and are taken into temporary storage or shipped out



Cartons which can't be re-used are fed through chutes in the floor to belt conveyors running along the ceiling of the third floor to the baling machines. When wooden cases or re-usable cartons are processed, these aren't lifted from the conveyors across the soaker feeds. Instead, on additional conveyor runs, they are carried be-

yond this point and, by means of traffic control arrangements, are sent on a single-deck conveyor to the case repair area.

12-Car Siding

Empties are also received in Dow's new freight terminal linked to the bottling house by a tunnel.

(Please Turn to Page 61)

AWA Meeting Covers Current Problems

Complete round-up of industry problems discussed by speakers and panel groups. Uniform Commercial Code, government storage draw member interest

MANY important current problems were reviewed at the 62nd Annual Meeting of the American Warehousemen's Association in Washington, D. C., May 17 to 21. The convention combined General Sessions and separate sessions for the National Association of Refrigerated Warehouses and the Merchandise Division. The program included speakers from the warehouse, transportation and general industries, as well as prominent government officials.

Perhaps the most vital problems to warehousemen covered were The Uniform Commercial Code and government storage. Both of these were discussed at length with audience participation running high.

Uniform Code

C. O. Butler, Chicago, chairman, Committee on the Uniform Commercial Code, reviewed his group's

March report on the code and outlined the committee's objections to it. Essentially, the greatest objection concerns the inevitable elimination of the Uniform Warehouse Receipts Act, which the industry has used for many years and which is acceptable in all states. The committee also listed its objections to specific sections, such as: Six sections on criminal offenses, the lack of provisions for warehouses that sell goods legally to satisfy a lien, etc.

USDA Relations

M. J. Hudtloff, Washington, D. C., director, Transportation and Warehousing Branch, P&MA, US Department of Agriculture, discussed future relationship between the Department and refrigerated warehouses.

He commented on the three principal objections advanced by warehousemen and the department's remedial procedures. The



W. F. Long
General President

first of these involved the Surety Bonds required by the government, which have been reduced from 20 per cent to 5 per cent with a new \$5,000 minimum and \$100,000 maximum. It was pointed out that cash and negotiable securities or legal liability insurance are acceptable in lieu of a bond.

Hudtloff also outlined the new storage contracts effective April 1, many objectionable features of which have been eliminated. In addition, the Warehousemen's Guide Book has been revised at the request of the industry, principally in regard to stacking requirements.

General Sessions

General sessions were addressed by prominent government figures, such as: Secretary Benson, Senator Byrd and Representative Judd. Their talks were highly inspirational and credited the industry for doing an excellent job during war, peace and mobilization. *

Officers Elected at AWA's 62nd Annual Meeting

General Officers

President—W. F. Long, St. Louis, Mo.
Vice President—A. B. Efroyson
Treasurer—W. A. Morse

Merchandise Div.

President—I. S. Culver
Vice President—R. M. King
Treasurer—M. A. Buckley
Executive Board—Rudy Wilhelm, Jr.,
A. T. Pouch, Sr., S. J. Beauchamp, Jr.

NARW

President—R. M. Conner
Vice President—M. W. Young
Treasurer—W. W. Wilson
Executive Board—Richard Doncaster,
E. F. Swanberg, C. E. Adams, R. C.
Muckerman



I. S. Culver



R. M. Conner

DA Reviews

5th MATERIALS HANDLING EXPOSITION

Cost reduction factor highlights Philadelphia Show as 325 exhibitors display the latest in materials handling equipment.

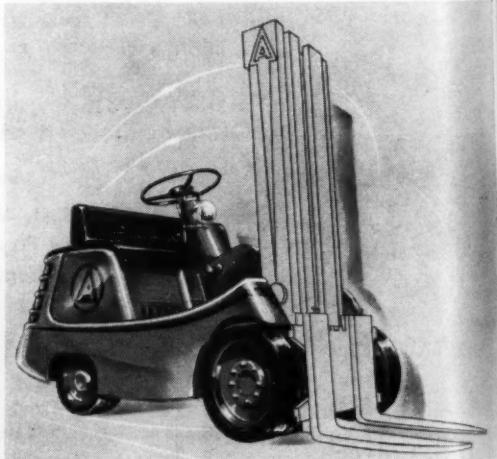


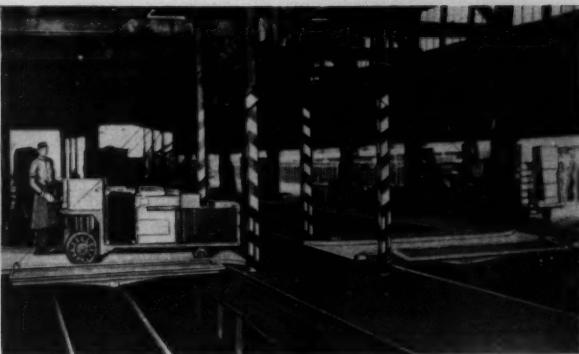
No. 1: X-70 Fork Truck of the Future was just a show-piece, not for sale

No. 2: Here a Tey boom is supported by a 6,000-lb capacity Yale electric truck. Boom is capable of holding two workers



No. 3: Automatic introduced the Dynamotive, gas powered industrial truck with electric transmission





No. 4—Left: Magnesium Co. of America displayed 30-ft portable ramp

the latest in materials handling equipment and systems

Conference workshop seminars.

On May 17, the Sunday before the show opened, the College-Industry Committee on Materials Handling Education sponsored an all-day seminar on handling education. The meeting was opened by Spencer A. Larsen, Wayne University, committee chairman. Co-chairmen of the seminar were F. C. Winter, Columbia University, and A. K. Strong, American Cyanimid.

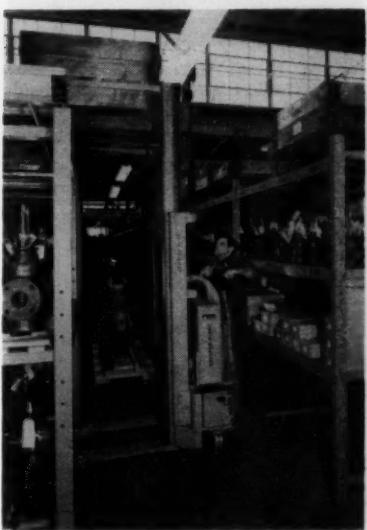
The show itself was an extravaganza of new equipment, from new

type freight cars to tiny stencil brushes, and from huge electric industrial trucks to light-weight aluminum hand trucks.

Ainsworth Mfg. Co. displayed its Mult-A-Frame steel framing material, which consists of only three basic units, channel frame, spring T bolts and safe-lock fittings, and which is assembled without nailing, drilling or welding. The Stewart-Warner exhibit featured methods of pumping liquid materials, from the factory container to the source of use.

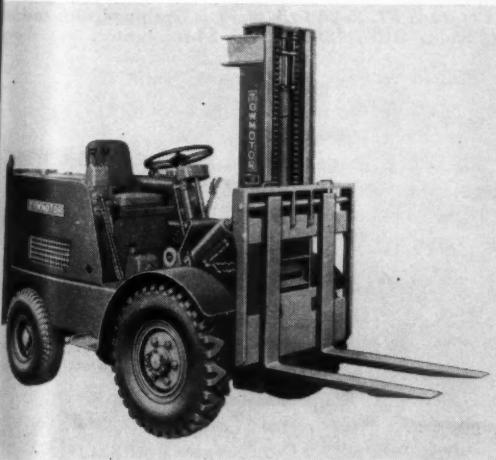
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No. 5—Above: Magline showed magnesium dock boards, ramps, bridges



No. 6: Lewis-Shepard JackStacker works in less than 5-ft aisle width

No. 7: Towmotor's first diesel powered trucks were displayed. They are available in five popular models

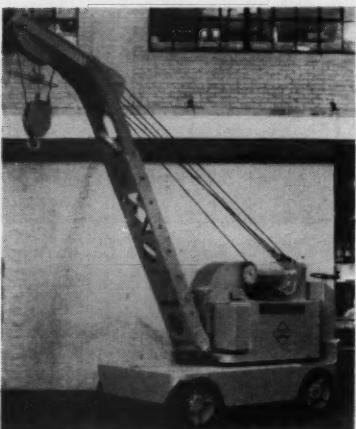


No. 8: Hyster's YC-40 is claimed to be the smallest and lightest 4,000-lb lift truck on the handling market today



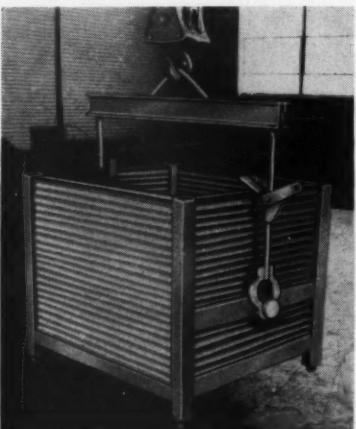
...Materials Handling Show

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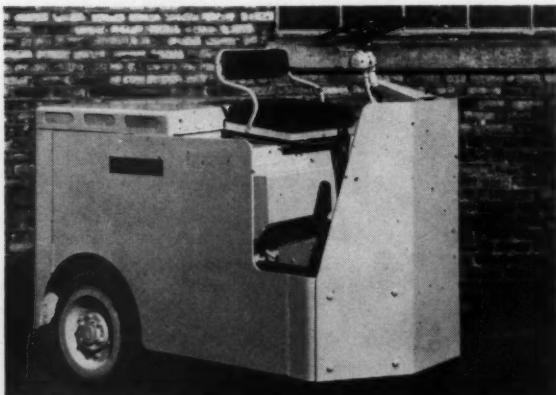


No. 9: Elwell-Parker's electric crane is for bulky, non-conventional loads

No. 10: Equipment Mfg. used miniature display — showed dumping scrap box



No. 11: Mercury display included 4,000-lb fork truck, a Tug electric tractor and their new Banty gasoline tractor



No. 12: Buda FT 75-24 fork truck is equipped with cushion tires, 83-in. OHL, 7500 lift at 24-in. center, was shown

Lift truck attachments, including a hydraulic shovel, gravity dump shovel, snow plow and cab were exhibited by Allen Industrial Products. Alvey-Ferguson showed a new concept in product movement with a conveyor system of complete flexibility, position and application, ease of mobility, adaptability and versatility.

Skid racks made in prefabricated sections and assembled without bolting or welding were displayed by American Metal Products Co. American Monorail's booth included an automatic dispatch carrier, a RailMaster MonoTractor crane, a standard electrified crane with the new right angle MonoTractor and a scale model of the Stacker Crane.

The Anthony Lift Gate shown in two models features only one hydraulic cylinder for all operations, one-lever safetymatic control, dual safety latches and automatic lock, with capacity up to 4,000 lb.

Electric Transmission

Col. Alexis de Sakhnoffsky styled Automatic's new Dynamotive, billed as the first gas powered industrial truck with electric transmission. Automatic claims for its new creation low maintenance costs, performance characteristics and

long life of straight electric trucks, and the constant power service of a gasoline engine.

Baker - Raulang exhibited two new trucks—a 1,500-lb, center controlled rider-type model for light duty warehouse and production handling, and a 1,500-lb, end controlled rider-type designed for shipping dock and truck loading work. Lift-A-Loft, a new platform lift truck with push button control for overhead maintenance work was shown by Barrett-Cravens. Barrett also showed radio remote controlled electric trucks.

Eighteen new pieces of equipment, diesel and gasoline powered fork trucks and industrial tractors, were exhibited in the Bud booth. Much of the equipment was equipped with torque converters. Century Products displayed its line of Century 1000 lift trucks available in elevating heights ranging from 4, 5 and 6 ft, with manual or electric hydraulic lifts.

Truck of the Future

Highlight of the Clark Industrial Truck exhibit was the heralded X-70 Fork Truck of the Future. The X-70 is strictly an experimental model, incorporating innovations suggested by users and engineers.

Coles Cranes showed a 12-ton and a 7½-ton crane both of the gasoline-electric type. They feature clutchless control and an automatic transmission.

(Please Turn to Page 56)

New TOC Award Plan

Announced at ATA Meeting

1952-53 terminal construction eligible for Council citation. Spring sessions break attendance records as experts cover industry problems

THE American Trucking Associations Spring Meeting, May 11-14 in Dallas, Texas, drew an all-time high attendance—roughly 25 per cent greater than the record breaking 1952 meeting.

Sponsored by the Equipment and Maintenance, Terminal Operations, and Safety Supervisors Councils, the program featured a typical Texas round-up of current problems in all three fields. Corralled for the occasion was a stellar "range crew" of program chairmen, speakers and panel members.

As in the past, there were general meetings of common interest to all three councils, and other meetings covering specific problems of each of the three groups.

Terminal Operations

TOC announced that it will award citations for new terminals—regardless of the size of the company or its facilities. Any firm which completed a new terminal last year or builds one this year is eligible for the citation. The awards are for good citizenship and contributing to the stability of the trucking industry. Presentations will be made through state associations affiliated with ATA.

TOC sessions covered a number of pertinent problems in the fields of personnel, claims prevention, handling, and cost control meth-

Meeting Coverage

Space limitations and the late date of the Texas meeting in relation to DA's June deadline made it impossible to give the proceedings full coverage in this issue. Scheduled for more comprehensive coverage in future issues of DA are Ray Farah's talk on "Personnel Screening," "Safety" presentations by S. M. Brasfield, Bert L. Wheat and H. B. Dudley, and remarks on "Safe Driving Depends on Truck Maintenance."

ods. John Steele, Super Service Motor Freight Co., Nashville, Tenn., stressed the importance of "Power Through Teamwork" in personnel activities.

Freight Handling

Materials handling was covered by two speakers and two panel sessions, the latter consuming practically an entire day. R. J. Martin, Mid-States Freight Lines, Chicago, Ill., recounted the success of his company's centralized checking unit, which features a recently installed centralized communications system.

R. H. Linam, Central Freight Lines, Waco, Texas, told how his firm effected a 20 per cent reduction in handling costs and 25 per cent reduction in claim losses through installation of an in-floor conveying system in its Dallas terminal.

Safety Sessions

Safety programs covered a wide range of problems—from psychological factors to claims settlement. In addition to a number of individual speakers, three panel discussions were conducted.

A panel devoted to accident investigation included representatives of law enforcement, insurance, and the trucking industry. S. M. Brasfield, Transport Insurance Co., Dallas, pointed out that prompt investigation will reduce the cost of claims and often will discourage a claimant from making groundless or exaggerated claims.

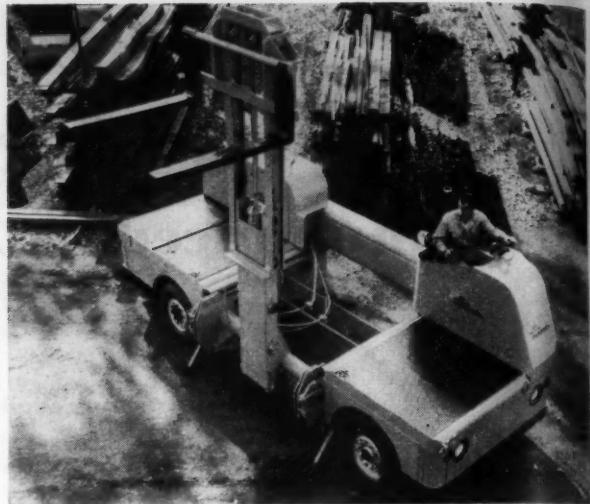
Accidents caused by problem drivers was another interesting panel topic. Comments centered on the difficulties in discharging such drivers and the handling of warning notices. In another phase of the discussion it was explained how safe driving depends to a great extent on a thorough truck maintenance program.

While the meeting could be generally characterized as an intensive workshop of the subjects covered, moments of organized and informal relaxation were provided. The piece de resistance was a genuine Texas barbecue on an honest-to-goodness Texas ranch. The barbecue featured range style chow and entertainment provided by bona fide Texas cowboys. *

By D. O. Haynes
Materials Handling Consultant
Distribution Age

Equipment Comparison:

Side-Loader **VS.** **Combination**



Uprights can be moved transversely so that in the extreme outboard position forks project beyond the truck platform

Impartial analysis compares new unit with

TABLE I—Specifications of Typical Machines

	END-LOADER	FORK TRUCK	SIDE-LOADER
Capacity	5 ton	5.7 ton	5 ton
Forks: Length		54 in.	54 in.
Lift		12 ft	12 ft
Tilt: Forward, Back		4° 12'	5° 5'
Spread		80 in. (special)	60 in.
Length	10 ft, 10 in.	16 ft, 8 in. (including 54-in. forks)	19 ft, 6 in.
Width	86 in.	78 in.	89½ in.
Wheel/Base	76 in.	90 in.	139 in.
Travel Speed	25 mph	25 mph	30 mph
Tires: Front	9 x 20	8.25 x 18 dual	10 x 15
Rear	7.50 x 15	8.25 x 18 single	10 x 15
Weight	7,300 lb	14,600 lb	18,000 lb
Cost: Approx., fob factory	\$5,200	\$7,150	\$13,900

TABLE II—Minimum Widths of Required Aisles

	END-LOADER	FORK TRUCK	SIDE-LOADER
Truck Alone:			
Forward Movement	10 ft	8 ft	10 ft
For 90° Turn			
From Aisle	10 ft, 5 in.	11 ft, 1 in.	11 ft
Into Aisle	10 ft, 5 in.	11 ft, 1 in.	11 ft
For 180° Turn	31 ft	22 ft, 2 in.	50 ft
With 30-ft Load:			
Forward Movement	10 ft	32 ft	10 ft
For 90° Turn			
From Aisle	15 ft, 6 in.	32 ft	11 ft
Into Aisle	15 ft, 6 in.	32 ft	19 ft

A NEW type of materials handling machine usually causes speculation as to its application. When the side-loader was introduced a few years ago it was anticipated that it would replace the end-loader and fork truck combination, especially in open-yard storage of long, bulky materials.

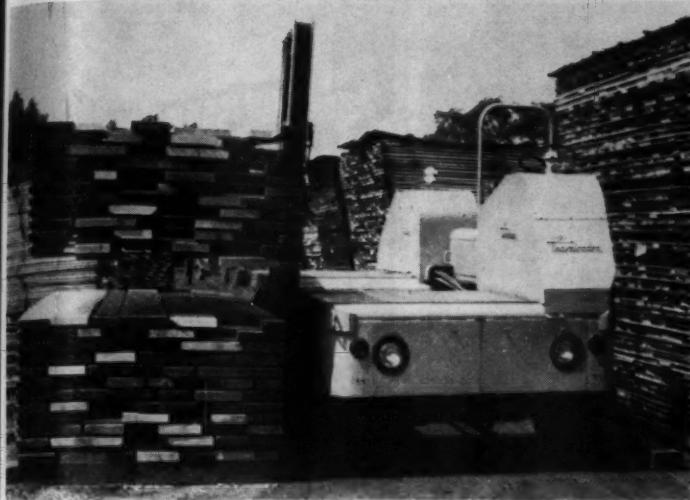
Impartial Analysis

It has been adopted by a number of concerns for this purpose, but there is still a wide difference of opinion among handling engineers as to which of the two methods gives the best results.

Both methods have their place and it is the purpose of this article to give the reader all available information about the machines and how they function—in an impartial, analytical manner.

Basic Description

There are other machines, such as mobile cranes, which can be used for handling longer-than-usual products, but, since the side-loader was designed to combine the hauling function of the end-loader with the tiering function of the fork truck, we shall confine our attention to comparing the two methods and will cover only briefly some of the operations which the side-loader is equipped to perform.



As shown, the side-loader can run its longitudinal load down an aisle slightly wider than its own width, but can tier to the right side only

end-loader—fork truck team in yard operation

Operating features of the fork truck are too well known to demand description here, except to say that with an extra wide carriage its forks can support long, reasonably rigid loads satisfactorily. The way in which an end-loading machine, variously called a straddle truck or carrier, maneuvers over its load, raises it a few inches, transports it and then sets it down has become a familiar sight during the forty-odd years it has been on the market.

In appearance the side loader resembles a platform truck with a centrally located bay or well in which are mounted the uprights and operating mechanism of a fork truck.

The uprights can be moved transversely across the truck so that in the extreme outboard position the forks project beyond the platforms and can lift loads placed within the limits of their reach.

Hydraulically operated stabilizers prevent the machine from tipping during the lifting operation and are automatically retracted

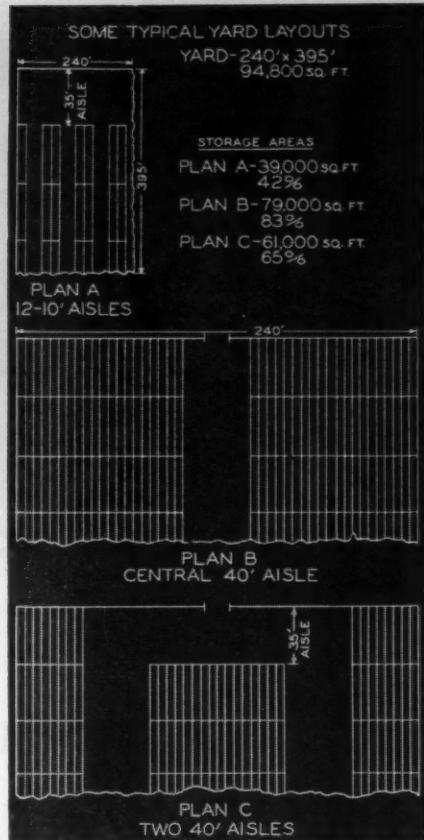
before translation. Normally, the load is carried inboard, so that if it is sufficiently long to bridge the well its ends ride on the two platforms about four feet above ground level.

The machine can run its longitudinal load down an aisle slightly wider than its own width, but it can tier this load only to the right side of the path of travel. The depth to which it can tier is limited by the length of the forks.

5-Ton Capacity

In order to make a fair comparison of the two methods, it is necessary to select three machines capable of handling 5-ton loads. This is the only size available for immediate delivery by the manufacturer of the side loader. With three such machines we can handle the same quantities of materials as a unit, but it should be mentioned in passing that such a combination of machines might not be selected in actual practice.

It would be more flexible, for instance, to use one or more fork



trucks of smaller capacities if the fork-truck phase of the operation would not keep the single machine fully occupied. The smaller fork trucks would probably be more useful in other types of unit-load handling.

Dimensions

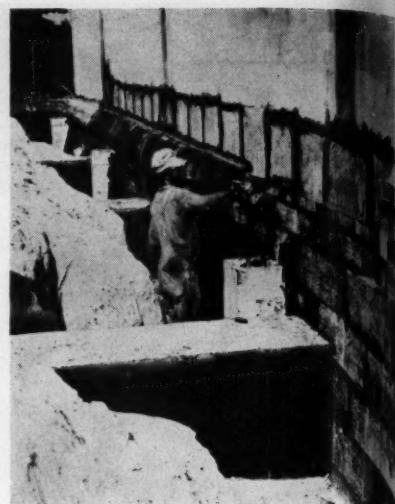
Table I gives the critical dimensions of three typical machines taken from data supplied by manufacturers in specification sheets. The machines are all capable of handling 10,000-lb loads, 30 ft long. The forks are 54 in. long and the height of lift, 12 ft.

The figures show that the machines are quite comparable. The side-loader is the heavier of the trio, but it has a wider wheelbase on which to spread its extra weight. A significant fact is shown by the investments involved. The end-loader and fork truck combination costs \$12,350, while the side-loader alone is listed at \$18,900. There is, therefore, 11 per cent difference in favor of the two-machine team.

(Please Turn to Page 62)



1,600,000 board ft of Fiberglas low temperature insulation was used by the Mid-South Refrigerated Warehouse Co., in their new \$2,000,000 building, covering 2½ acres with a freezer capacity of 1,300,000 cu ft



Hot asphalt is used to seal three layers of insulating boards to the walls 6 ft below the floor level of the new Freezer Co. warehouse

Three Methods of Spun-Glass Installation

Steel clip, framed insulating board, and hot asphalt installation methods utilized in construction of two Southern freezer plants

CONSTRUCTION of low temperature storage rooms, new or old, embodies several problems, some of which have to do with installation techniques of insulation material. Poor installation may reduce the effectiveness of insulating material and create such problems as sweating, sagging and buckling.

Modern techniques have simplified these problems to a degree where a number of installation methods are available for any insulation material desired. Choice is dictated by construction methods, cost, personal preference, ex-

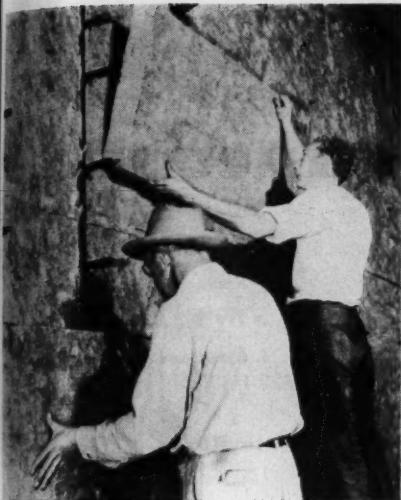
perience or availability of equipment.

A good guide for the selection of installation methods may be obtained from those employed in new construction. Those selecting spun-glass insulation can obtain such a guide from two new low-temperature warehouses recently constructed in the South—Freezer Co., Leesburg, Fla., and Mid-South Refrigerated Warehouse Co., Memphis, Tenn. Spun-glass bonded with resin into rigid boards was chosen.

In Leesburg, Freezer Co. erected a 2,600,000-cu ft low-temperature

warehouse. It consists of three rooms, each 200 by 170 ft. Built of cement block, the one-story building measures 26 ft from floor to roof. Partitions are of red tile with 3-in. thick insulation on each side, the floor is of concrete, and roof of precast vermiculite slabs on bar joists.

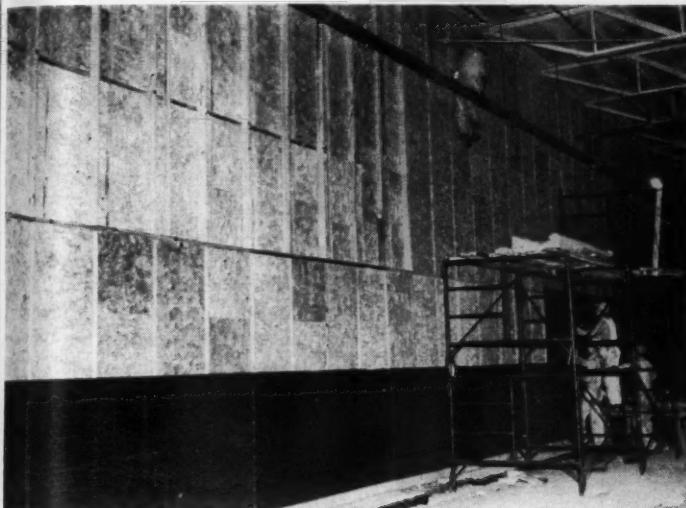
A long term lease by the Minute Maid Corp. will bring 4,000,000 gal. of fruit juice to this new warehouse. To maintain the sub-zero temperatures necessary, nearly 500,000 sq ft of insulation was used in the walls and roof. The plant also provides enough addi-



Workmen place 2 layers of 4-in. insulation on rows of knife-like clips in the new dry "Stik-Clip" method at the Freezer Co. plant



The hot-asphalt mopping method is used by Freezer Co. to cover 100,000 sq ft-roof. Three layers of Fiberglas insulation—enough to cover six football fields—make 8-in. covering to maintain minus 10 deg temperature



Angier brownskin paper, three layers 2x4 ft Fiberglas insulating boards to thickness of 8 in., a layer of perforated Masonite panels held in place by Wolmanized treated wood studding is installed at Mid-South's new plant

tional space to store 1,000 freight carloads of frozen concentrates.

A new type "dry" application, known as the "Stik-Clip" method, was used to insulate the wall. Two layers of 8-in. thick insulation, because it is light-weight, was impaled on knifelike clips which are secured to furring strips on the wall. To finish the job, perforated tempered hard board, $\frac{1}{8}$ -in. thick was used on the interior. This dry application method eliminates use of hot-asphalt and attendant on-the-job fire hazards and reportedly is faster than hot application methods.

The 100,000-sq ft roof contains 8-in. thick insulation on top of the roof slab. To apply this material, the regular hot-asphalt adhesive method was used.

The Mid-South Refrigerated firm has located its new \$2,000,000 warehouse on an 8-acre tract. The 250 x 407-ft building will have 1,300,000 cu ft of all-freezer cold storage capacity with equipment sufficient for quick-freezing 1,000,000 lb of foods.

The single floor concrete and steel building includes five freezers, each 50 x 200 ft, and four freezers 50 x 50 ft, 900 lineal ft

of enclosed loading docks for trucks and railroad cars, 1,600,000 board ft of spun-glass low temperature insulation, an intercommunications system, complete mechanized materials handling equipment, a blower system in the freezers with no-frost equipment, and a complete sprinkler system.

Dry Installation

The entire refrigerated portion of the building is enclosed in spun-glass cold storage insulation. The walls and floor have 8 in. of insulation, and the roof has five 2-in. thick layers. Brown skin paper was adhered to the cold inside of the concrete sidewalls as a vapor barrier and dry installation of the insulation was made. The 2 x 4 ft insulating boards were snugly installed in three layers with the cold or freezer side covered with perforated hard pressed wood panels held in place by treated wood studding.

To deflect sun and reduce refrigeration needs, the roof is covered with white marble chips.

The three docks, and the 32 x 200 ft sorting and assembly room at the south end of the building also have 4 in. of spun-glass roof insulation. The docks completely envelop the freezer areas and thus give added protection to the low temperature freezers. *

Fig. 1: Order blank became itemized form with separate forms made for each of the seasonal lines and for the every-day line of cards

Fig. 2: Next step was to make large numbers of time studies and develop a form to be used with representative studies on orders

DATE / 2 - V - Y2		REMARKS		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		50		51		52		53		54		55		56		57		58		59		60		61		62		63		64		65		66		67		68		69		70		71		72		73		74		75		76		77		78		79		80		81		82		83		84		85		86		87		88		89		90		91		92		93		94		95		96		97		98		99		100	
BASIC		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22																																																																																																																																																															

Fig. 3: Values obtained from the detailed time studies were transferred to this time study spread sheet for comparison purposes

Incentive Pa

By E. A. Cyrol

E. A. Cyrol & Co., Chicago, Ill.

Part 2

THOSE who have tried incentive pay plans for indirect workers and found them workable, claim that such plans, applied through Measured Indirect Labor Standards, could save up to one-half of all the money paid out by industry to its indirect labor group.

The case study outlined below—Involving Stanley Greetings, Inc., Dayton, Ohio—reveals a 100 per cent increase in production, 50 per cent decrease in manpower, 37 per cent reduction in costs, and an average worker gain of 22 per cent in hourly earnings.

(Last month we told the story of two large companies in unrelated fields utilizing MILS theories to record 30 per cent reductions in manpower, up to 40 per cent decrease in costs, and average hourly pay increases of 40 per cent.)

Order Filling

MILS results at Stanley are made more impressive in that the system was applied to a stockroom and order filling operation, generally considered outside the realm of pay incentives. The operation is further complicated by the fact that many thousands of nearly identical items are produced.

Editor's Note—This is the concluding article in Mr. Cyrol's series of two on incentive pay for indirect workers. For Part I see DA, May, 1953, Page 22.

Pay For Indirect Labor

Stockroom and order filling operation, generally considered outside the realm of pay incentives, records 100 per cent increase in production, 37 per cent cost reduction, 22 per cent boost in earnings

All of the production departments at Stanley—printing, folding, finishing and boxing greeting cards—had previously been placed on an incentive schedule. When management decided to install the same type system in order filling, it was found that the department could not be effectively analyzed for time study and standardization purposes.

As the greeting cards left the boxing operation they were taken to the stockroom for storage in steel bins. The only standard procedures were that the cards of each type came boxed in specific quantities, and that seasonal cards such as those for Christmas and Easter were segregated from every-day cards (birthday, convalescence, etc.).

Before any work could be done toward tailoring an incentive plan, the department had to be physically reorganized. The new plan involved coordination of all phases of the order filling operation, from the form itself to final movement of the completed order to the shipping department.

The order blank became an itemized form 11 x 18 in. in size (shown in Fig. 1). Separate forms were made for each of the seasonal lines and for the every-day line. Each form has the card stock numbers listed numerically, with a space adjacent to each number for listing the quantity desired. The stockroom was re-organized so that cards are now placed in bins in numerical sequence, corresponding to the order form.

In filling an order now, an employe selects the order, moves to the bin area of the line of cards involved, and as she progresses through the aisles, encounters the cards designated on the order in the same manner in which it was written. For all except very small orders a special truck is used.

(Please Turn Page)

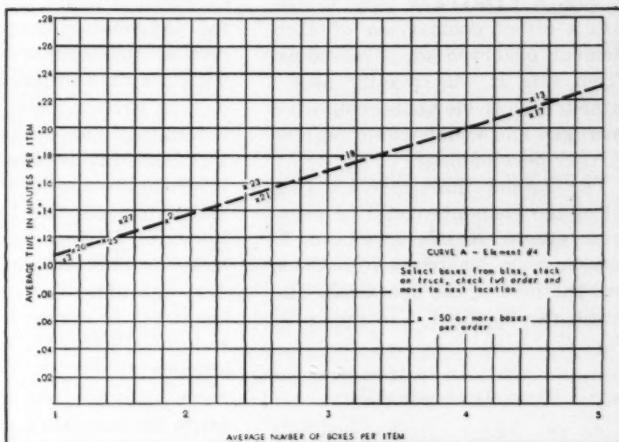


Fig. 4: Spread sheet revealed that all the elements could be averaged except Numbers 4 and 7. Graph for No. 4 is shown here

Fig. 5: Figures obtained by studies up to this point were converted into standard hours and incorporated in the rating tables

NUMBER OF BOXES ON ORDER	ALLOWANCE FOR EACH ORDER		
	Up to 25	25 to 50	Over 50
1 to 25	.026 Std. Hrs.		
25	.058		
450	.089		
675	.121		
900	.152		
1125	.184		
1350	.215		
1575	.247		
ALLOWANCE FOR AREA COVERED			
ALL ORDERS			.004 Std. Hrs.
C) ALLOWANCE FOR PICKING STOCK AND STACKING ON PACKER'S BENCH			
AVERAGE NUMBER OF BOXES PER ITEM ON ORDER		NO. BOXES ON ORDER	
Up to 25		25 to 50	Over 50
1		.00342 Hrs.	.00335 Hrs.
1.5	1.6	.00348	.00337
1.6	1.9	.00351	.00340
1.9	2.2	.00354	.00332
2.2	2.5	.00357	.00343
2.5	3.0	.00362	.00346
3.0	3.5	.00366	.00350
3.5	4.0	.00371	.00356

Incentive Pay...

(Continued from Preceding Page)

Time Studies

After reorganization, the next step in developing the incentive plan was to make large numbers of time studies. Since the elapsed time on each order was relatively short, an overall time study of an order from start to completion was practical. The recurring elements were broken out and space provided for delays and foreign elements. The form used with a representative study is shown in Fig. 2.

Values obtained from the time studies were then transferred to a Time Study Spread Sheet shown in Fig. 3. This was done to obtain a direct comparison of each element observed on all studies. From this it was readily ascertained which elements could be averaged and which would require further development.

The Spread Sheet revealed that all of the elements could be averaged except Numbers 4 and 7. Graphs were constructed for these two portions of the operation. The graph for Element 4 is shown in Fig. 4.

Time Determination

At this point all the required data had been collected for standardizing the operation, but there remained the task of converting the information into usable tables for time determination. An allowance of 20 per cent was added to the normal time in minutes for a bonus incentive and 6 per cent was added for fatigue and personal allowance, comparable to allowances for similar operations within the plant. The figures obtained were converted into standard hours and incorporated into a rating table as shown in Fig. 5.

This essentially is the MILS approach. The many elemental time values developed during the installation of the plan give guides which, in turn, decrease the number of time studies required.

Since payroll accounting at Stanley is done with IBM equip-

Order No.	X-001									
Employee Name	Clock No.			EMP. NO.	OPR. NO.	CLOCK HRS.		DATE	\$	D. W. SRS. HRS.
Date	1-2-48									P. W. SRS. HRS.
Operation No. 6352										
Time			Order Allowance - Hrs.							
Start	Stop	Min.		.070						
			Area Allowance - Hrs.							
				.042						
			Picking Allowance - Hrs.							
No. Boxes	100	No. Items	Rate							
No. Items *	61	61	.0035	214						
Ave. No. Bxs.	1.64	TOTAL ALLOWANCE FOR PICKING ORDER								
Per Item				.29						

Fig. 6: IBM system is used in payroll accounting. This time ticket was designed to provide space for all information required on each order at Stan-

ment, this system was followed when choosing the most practical method of reporting and calculating each employee's earnings. A time ticket was designed (Fig. 6) which provided space for all of the information required to arrive at the standard time allowance for each order. When an order is written, the rating clerk determines the number of boxes and items involved, and from this information, applies the standards and calculates the total time allowed to fill the order. The time ticket is then attached to the order; and after the order is filled, the ticket is removed and kept by the order filler. The total time allowance shown on the day's accumulation of time tickets represents the employee's earned hours.

Administration Cost

The cost of the operation of applying the standards is equal to approximately 6 per cent of the order filling payroll. The savings paid for this cost many times over. While this would seem somewhat high, it was decided to go one step farther and analyze order handling throughout the plant. As a result, some operations were eliminated and others streamlined to the extent that the order filling standards could be applied without extra clerical help.

The volume of orders formerly handled by the department can now be handled with half the original number of employees. Until the plan was installed, there was no yardstick by which to gage a day's work except inadequate past experience records based on the

dollar volume of orders handled. Since this figure varied greatly day by day, management was never in a position to know exactly what to expect. As a result, the working pace was established by the worker. Also, the nature of the area in which the employees work is such that they work without supervision about 90 per cent of the time.

Employee Gains

Along with the great increase in productivity, employees have benefited through their incentive earnings. When the plan became effective, the employes' former hourly wages became a guaranteed base rate. That meant, for instance, if a person was earning \$1 an hour on a day work basis and after the installation her skill and effort resulted in a 25 per cent bonus earning, she would earn \$1.25 per hour. At the present time the department as a whole is earning a 22 per cent bonus with the top individual earning 45 per cent.

Prior to installation of the plan, there was a rate range for this job rather than a single rate. The rate range idea was continued, and employees are up-graded within this range. Increases are granted periodically and such personal attributes as loyalty, dependability, attitude, etc. are considered rather than productivity, since with the incentive plan, productivity has its own reward. Provisions were made before installation of the plan for absorbing the excess help into comparable jobs elsewhere in the organization.

(Please Turn to Page 64)

For prompt service, use the postage-free postcard provided here for your convenience in securing FREE LITERATURE and NEW PRODUCTS information described in this issue of DISTRIBUTION AGE. All material FREE, unless otherwise noted, as in the case of text books and some pamphlets.

Household Goods Data

The Movers Conference of America has published a brochure containing "a review of the legislative background and accomplishments by which the Armed Services in three successful legislative enactments over the past 10 years did establish and have since preserved the privilege for moving the household goods and personal effects of military personnel without regard to comparative costs of the various modes of transportation." A limited supply is available to men in a traffic capacity.

Circle 32 on Service Card, Page 35

Multi-wall Sack

Kraft Bag Corp., Gilman Paper Co. subsidiary, has issued a brochure about their newest development in multi-wall shipping sack construction known as KRAFT-lok, a valve-type gusseted bag for packaging free-flowing granular or pulverized materials.

Circle 33 on Service Card, Page 35

Oil Industry Handling

A new 4-page brochure of materials handling equipment in the oil industry has been released by Hyster Co. The new literature illustrates typical handling operations in oil fields, bulk stations, refineries and equipment distributors with such machines as the Karry Krane, Straddle Truck, Turret Truck and lift truck.

Circle 34 on Service Card, Page 35

Tournatractor

A 28-page booklet in color, describing and picturing the LeTourneau Tournatractor, a high-speed, electric control, rubber-tired tractor available with 10 interchangeable attachments, has been issued by R. G. LeTourneau, Inc.

Circle 35 on Service Card, Page 35

Box Logistics

The Logistics Of Boxes, an 8-page booklet illustrating and describing the handling of boxes in load units, is available from Elwell-Parker Electric Co.

Circle 36 on Service Card, Page 35

BOOKS

DA Master Chart and Guide

The DA Master Chart and Selection Guide of Basic Materials Handling Equipment, which first appeared in the April, 1953, issue of DISTRIBUTION AGE, has been made available in booklet form. D. O. Haynes, consulting industrial engineer for DA, authored the material. It includes a master chart and encyclopedic treatment of all basic handling equipment. Sections 1 to 5 include equipment used in haulage, elevating, conveying, transferring and self-loading systems. Sections 6 to 12 cover parts and accessories for the same systems, plus handling and building accessories. The 36-page booklet is available from Chilton Co., Chestnut and 56th Sts., Philadelphia 39, Pa., at \$1 per copy. Special discount prices are afforded for quantity lots.

Industrial Truck Specifications

The DA Industrial Truck Specification Section, which appeared in the April, 1953, issue of DISTRIBUTION AGE, has also been made available in booklet form. The booklet gives complete specifications for 329 models of industrial trucks in the Lift Type classification, including pallet, platform and fork trucks. The Stationary Platform and Towing Tractor section lists 89 models. Twenty-six companies are represented in the first classification and 18 in the second. A full page of Materials Handling Statistical Data is also included. The booklet is available from Chilton Co., Chestnut and 56th Sts., Philadelphia 39, Pa. Special discount prices are available for quantity lots.

Comburology

Comburology, a new approach to problems of fire prevention and protection, is described in a new book published by The Spectator, insurance publishing firm. Entitled "Fire Prevention and Protection Fundamentals," the book is based on a course given at New York University for the last 10 years by the author, Gilbert E. Stecher, and on his findings as a special agent and fire inspector. Spectator, Chestnut and 56th Sts., Philadelphia 39, Pa.; 744 pages; \$10.

Packaging for Industry

Packaging for Industry, a new brochure dealing with flexible packaging, has been released by the Kennedy Car Liner and Bag Co. It gives an inside view of Kennedy's operation, from manufacture of freight car liners to Kiddie Kolor garment bags.

Circle 37 on Service Card, Page 35

Adjustable Ramp

A new brochure on the Hohl Adjustable Ramp graphically illustrates the installation in your present building without excavation when mounted on your existing loading dock. In new buildings shallow pits can be provided so that the benefits of this flexible unit can be had at all levels to an angle of 11 deg above or below the floor line. They are available in widths from 6 to 8 ft with a capacity of 5,000 to 20,000 lb.

Circle 38 on Service Card, Page 35

Increasing Sales

A comprehensive 26-page booklet, "How to Increase Profitable Sales," has been released by Remington Rand, Inc. The booklet features a "check list for sales management" which highlights basic information needed by sales executives such as: record-keeping systems that provide a control by individual customer, by prospect, by salesman and by territory; summary records and a unique photographic method of furnishing salesmen with details of their progress on individual accounts; and the use of modern office machines for the compilation of sales analysis statistics.

Circle 39 on Service Card, Page 35

Cargo Cranes

The Thew Shovel Co. has produced a 12-page picture book showing the varied applications of its crane line on docks, barges and ships. Full 8 x 10 in. pictures and short job descriptions make the book interesting and easy to read.

Circle 40 on Service Card, Page 35

Car Spotters and Pullers

A new book on electric car spotters and drum-type car pullers, has just been released by Link-Belt Co. It describes a complete line of equipment for moving railroad cars and other heavy loads, including both vertical capstan and horizontal drum designs. Eighteen single drum car pullers are listed. Designed originally for moving railroad cars, Link-Belt car spotters and car pullers have been adapted to scores of industrial tasks involving horizontal haulage.

Circle 41 on Service Card, Page 35

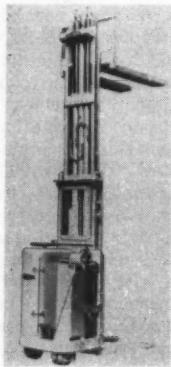
DA*New*

PRODUCTS

FOR FURTHER INFORMATION USE READERS' SERVICE CARD

All of the new products shown in this section were exhibited at the Fifth Materials Handling Exposition. For additional products seen in Philadelphia, see "DA Reviews 5th Materials Handling Exposition," Page 24, in this issue.

Telescopic Fork Truck



A new 2,000-lb capacity telescopic fork truck has been introduced by Raymond Corp. as an addition to its line of electric trucks. With an elevated height of forks of 132 in., a collapsed height of 83 1/4 in. base forks and elevating forks 30 in. wide by 42 in. long and dual tandem load wheels, this truck will easily handle single faced pallets and skid platforms.

Circle 51 on Service Card, Page 35

Easy Bulk Handling

A carrier is being loaded with Tote bins, manufactured by Tote System, Inc., for efficient handling of bulk materials. The Tote System includes a jolter and Spinner Head for filling of the Tote Bin,

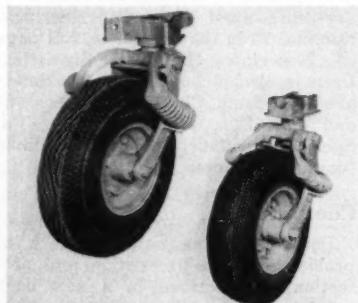


while the Tote Tilt is a special tilting mechanism which converts the Tote Bin into a 45 deg. angle hopper for quick discharge of the bin contents. The standard size is 42 in. x 48 in. x 68 1/2 in. high, and stands on 4-in. legs, making it possible for easy handling with standard fork lifts or pallet trucks.

Circle 52 on Service Card, Page 35

Safely Cushions Cargo

Saginaw Pneumatic Wheels are available in a wide range of sizes and specifications suitable for any application where speed, silence, and minimum vibration are essential. While primarily designed for

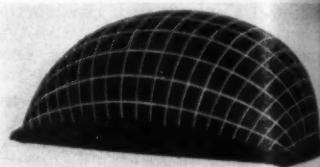


low-speed, they are equally adaptable for high-speed equipment. Available for straight axle or end axle adaptation, furnished with ball, roller, or taper roller bearings.

Circle 53 on Service Card, Page 35

Easy Flow

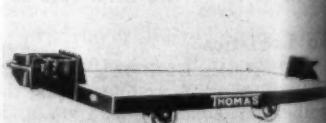
PneuBin, manufactured by Gehr Motor May Corp., is a bin-feeding device consisting of a reinforced abrasive-resisting, flexible diaphragm of B. F. Goodrich Amorite rubber or neoprene which is permanently Vulca-lock-bonded to the back of a specially fabricated steel plate. Air is alternately admitted and exhausted between the plate and the diaphragm, causing the latter to pulsate. The PneuBin Air Control automatically controls the flow of air in and out of the panel.



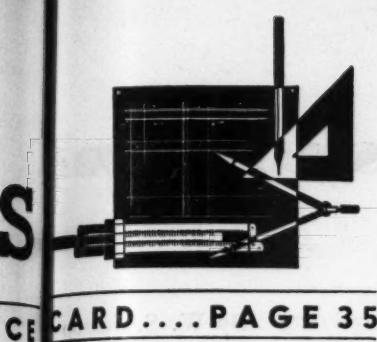
Circle 54 on Service Card, Page 35

Lower Deck

Thomas Truck & Caster Co. is marketing its new "Lo-Deck" trailer with a deck height of 8 in. and standard coupler height. Manufacturing plants, freight houses and warehouses who haul heavy crates, boxes, machinery, barrels and other bulk equipment on trailers will find the "Lo-Deck" of particular help. It is available in five platform sizes, with rubber or steel wheels.



Circle 55 on Service Card, Page 35



CARD... PAGE 35

Cuts Warehouse Costs

Select-O-Mat, a new method of handling cases for filling orders and order picking, picks up to 300 cases per hour. An automatic gripping arm drops one case at a time and each section stocks 50

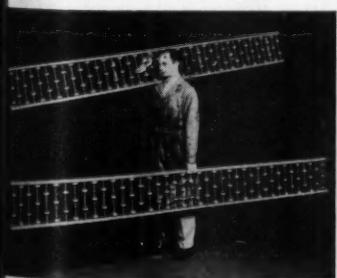


items (750 cases), occupying 200 sq ft. Stock control numbers on gripping arm and on loading rail ensure accurate picking and loading with Acme Pallet's product.

Circle 56 on Service Card, Page 35

Lightweight Conveyor

Light in weight and easily portable are two of the outstanding features of a new aluminum gravity wheel conveyor manufactured by Speedways Conveyors, Inc. Every part, except wheels and heavy axles, is made of a resilient aluminum alloy that is stronger than steel.



Circle 57 on Service Card, Page 35

Freight Car Mover

This TM "Payloader" tractor manufactured by the Frank G. Hough Co. can handle heavy-duty drawbar and pushing work, both on and off pavement. It makes a flexible, efficient railroad car



switcher and spotter for industrial plants and yards and can pull or push 8 to 10 loaded cars. It is available with a 106-hp gasoline engine or a 90-hp diesel engine.

Circle 58 on Service Card, Page 35

Convertible Excavator

Koehring has introduced its new $\frac{1}{2}$ -yd Model 205 excavator after being field tested for several years. The base machine converts from shovel to hoe, dragline, clamshell crane and pile driver. As a heavy duty crane it safely lifts 10 ton on crawlers and 15 ton on a rub-

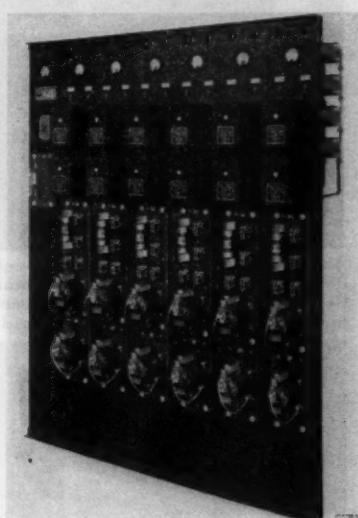


ber tired truck mounting. Big automatic friction brakes safely hold this excavator on a 30 per cent grade without blocking crawlers. Brakes are automatically applied when traction clutches are disengaged and all main clutches are self-adjusting.

Circle 59 on Service Card, Page 35

Automatic Charger

Any truck driver can operate this charger for motorized hand-lift trucks manufactured by Electric Products Co. Automatically the charging current begins at the proper value and is controlled through the charge; equipment

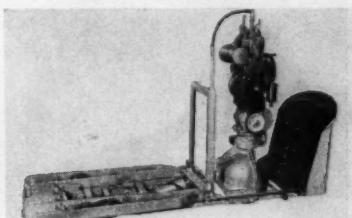


shuts down in case of power failure and when power is restored, charging resumes; each of the four batteries cuts off automatically when fully charged.

Circle 60 on Service Card, Page 35

Automatic Power Lift

Truck-Man Division of the Knickerbocker Co. has announced an automatic hydraulic power lift available on all skid and pallet low-lift trucks. A powerful hydraulic pump is installed directly



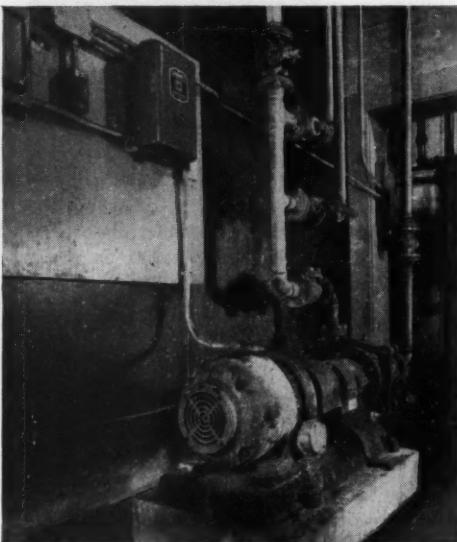
on the engine and transmits a pressure up to 1000 psi through a 360-deg. swivel elbow fitting and flexible tube to the cylinder. Model DHP shown is a heavy duty design of 4500-lb capacity for skid-lifts.

Circle 61 on Service Card, Page 35

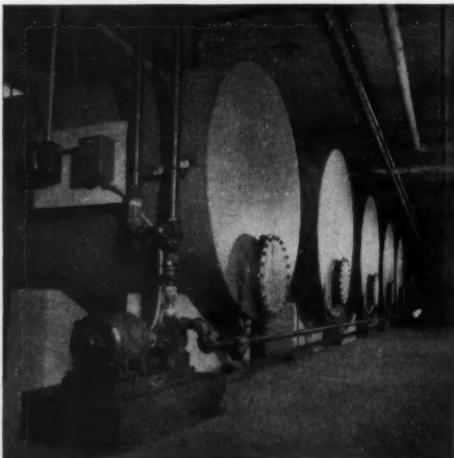
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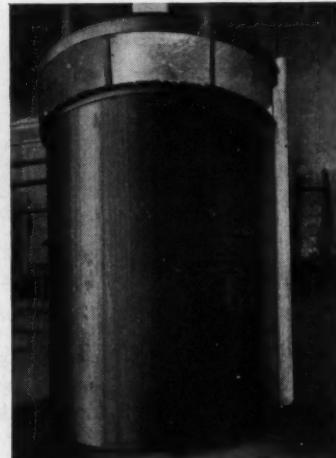
Above: Tank of raw materials enters plant directly from rail siding, arrow points to feed. Below: Here raw materials are received from tank cars and then are heated and insulated



Gravity fed storage tanks for cooking and aging are located directly below the rail siding

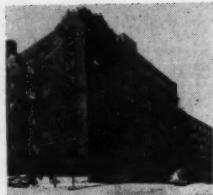


Battery of soap kettles maintains quality control throughout cooking



Refrigeration tank for further cooling of the liquid soap

Push Button Hand



By W. S. Jessop
President
U.S. Sanitary Specialties
Chicago, Ill.

At the U. S. Sanitary Specialties Corp., Chicago, we have been able to use the force of gravity to great advantage. While we realize that the present trend of plant construction is mainly unilevel, we are of the opinion that for our type of operation a multi-story building is more efficient and labor saving.

Building Design

The east section of our building is six floors, and the west section four. It is constructed of brick and reinforced concrete, a sprinklered fireproof building with all dry and story building is more efficient and labor saving. Wherever

A major attraction was the fact that the railroad track entered the building at the second floor level and is in part enclosed. We can spot three cars in the closed section and two on the weather side.

The track being on the second floor level again gives us the use of gravity. One further advantage for materials handling is that the first floor is at truck gate level so that loading and unloading trucks is at its easiest.

Handling of Liquid Materials

Use of gravity wherever possible in multi-story plant, plus latest materials handling scheme speeds liquid movement and cuts costs

ago, U. S. handles a multitude of products. Though liquid materials present the bulk of merchandise, there is a considerable quantity of dry and packaged goods.

Wherever possible we use gravity. Powders are stored on the floor above mixers or automatic scale and machine, which are charged at and floor levels. Skids, lift trucks, and rollerways and chutes are used whenever possible, but the handling of dry materials does not differ from the usual methods employed throughout the industry.

Liquid Handling

Liquid materials may arrive at our plant by tank car, tank truck or barrel. The latter is handled in

the way described for dry materials and consists of these liquids which do not lend themselves to bulk treatment because of the smaller setup.

Liquid materials arriving by tank car or tank truck are coconut whole oil, vegetable fatty acids, steam distilled pine oil and caustic potash. These can be received by either tank car or tank truck depending on several factors, which we keep in mind when purchasing, such as market conditions, delivery schedules, investment, etc. We can also receive liquid materials by tank car and immediately drum up on the first floor or transfer to tank truck in cases where other manufacturers

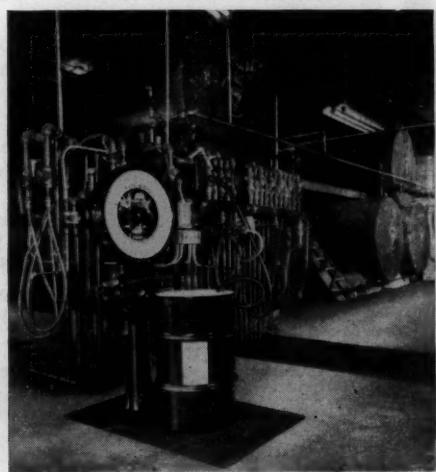
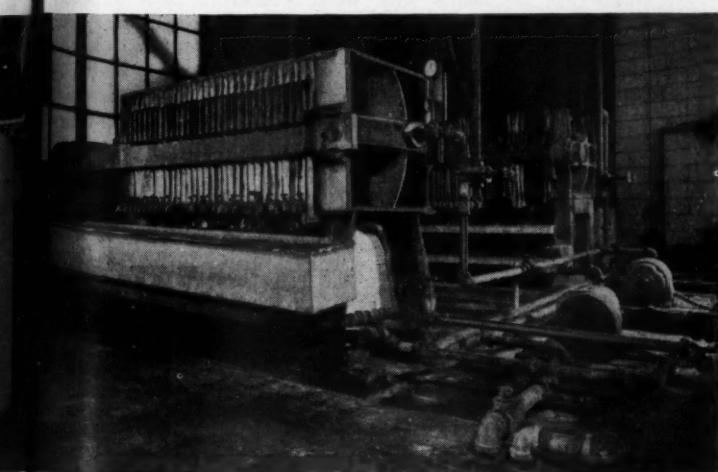
desire to take advantage of our facilities.

When a tank car of caustic potash arrives it is spotted within the building and hooked up for dropping by gravity into the receiving and storage tanks situated immediately below the tracks in the basement. The caustic potash tanks are built in place. They are of square all-welded construction, reinforced inside and connected to one another by a pipe at the bottom. These tanks will hold more than a tank car and by means of the pump, the material can be circulated and recirculated to prevent any settling out of solution.

This pump, an all iron centrifugal
(Please Turn to Page 66)

liquid hand soaps here make their way through five presses where they are then forced under pressure through nylon cloths for purification

Precision scales and automatic shut-off guarantee accurate filling measurement





James D. Edgett,
President
North American Van Lines, Inc.
Fort Wayne, Indiana

NORTH AMERICAN VAN LINES has built its business on complete customer service. Moves from Portland, Maine, to Portland, Oregon, are as painless for N.A.V.L. customers as a move down the block.

From modest beginnings in the 1930's, N.A.V.L. has become America's leading long-distance moving organization, with an annual business volume approaching seventeen million dollars (1952). Today, N.A.V.L. agents operate in all of the forty-eight states, with a giant modern fleet that includes hundreds of Fruehauf Furniture Vans.

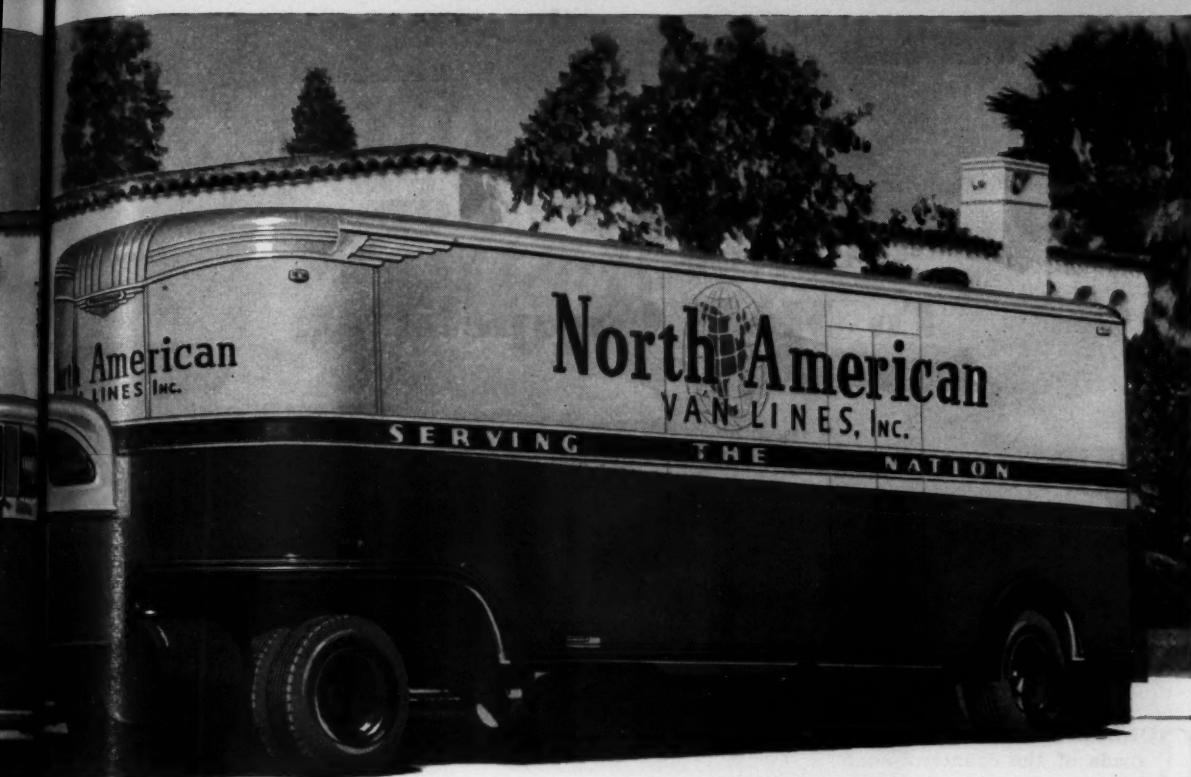
"We Specialize... Coast to Coast..."

"LONG-DISTANCE HAULS are tough on men and equipment," states Mr. Edgett. "That's why we've found it pays to select both with great care. The vans that carry our customers' highly-valued possessions to destinations all over America have got to be reliable."

"Fruehauf Furniture Vans have passed every test. Our business has benefited from their attractive appearance, and smooth-riding Multi-Rate Suspension. And Fruehaufs have consistently paid their way with lower maintenance costs, fewer repairs."

"When we add up all the advantages—especially Fruehauf's nationwide factory service facilities—we know that our Fruehauf Furniture Vans are sound buys."

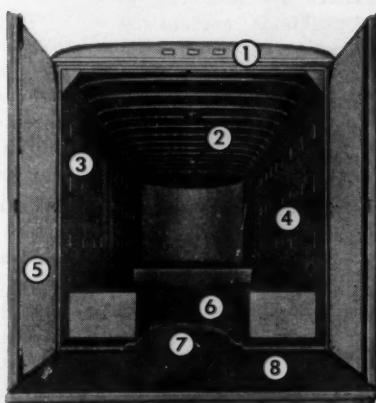
World's Largest Builder of Truck-Trailers
FRUEHAUF TRAILER COMPANY
Detroit 32, Michigan



In Safe, On-Schedule Arrivals... Via Fruehauf™

HERE ARE SOME OF THE FRUEHAUF FEATURES THAT PROVIDE
EXTRA SAFETY AND EXTRA PROFITS FOR YOU!

- (1) Husky, galvannealed steel roof is 100% weather-tight.
- (2) Large dome lights brightly illuminate entire interior.
- (3) Smooth plywood lining throughout protects cargo.
- (4) Cleats spaced and recessed for fast, positive tie-down.
- (5) Full-length rear doors are completely dustproof.
- (6) Tongue and groove hardwood floor fits tightly, wears longer.
- (7) Galvanized steel sub-floor seals out dirt and moisture.
- (8) Large, flush tail-gate aids fast, easy loading.



Circle No. 122 on Card, Page 35, for more information

Consolidate Now To Meet Competition

**Consolidation is no cure-all for present ills,
but at least gives railroads opportunity to meet
vigorous competition from other transportation**

CONSOLIDATION of the railroads of the country into a limited number of systems is still one of the most important ways to bring about one of the stated objectives of our national transportation policy—a stable and efficient railroad system.

Congress recognized the benefits of consolidation some 30 years ago but in the meantime there has been very little done to accomplish it. Complete voluntary consolidation is hard to bring about because: There are inherent obstacles and problems; certain legislative obstacles remain; extension of control by major systems and regulation designed to limit railroad competition have largely reduced incentive; voluntary activity would probably lead to unequal systems and to the stranding of many undesirable scattered properties which are really essential to the economy and defense of the country.

Ownership At Stake

Many feel, however, that not only the maintenance of adequate and efficient railroad service in peace and war, but also the continued existence of private ownership of the railroads, as well as other forms of transportation is at stake.

**By John H. Frederick
*Transportation Consultant***

For a number of years, the failure to bring about railroad consolidation has been blamed on the restrictions in the Transportation Act of 1920. Then the Act of 1940 relieved the ICC of the requirement to formulate a plan. Now 12 years later there is absolutely no evidence of a serious effort. Why is this so? For one thing, it has been most unfortunate that proposals for consolidation, at times, have been associated with government ownership. Some have opposed consolidation on the ground that it would be the first step toward nationalization.

These people have been mistaken. On the contrary, action on general consolidation of the railroads into competitive systems should receive its principal support from those who can recognize the vital importance of a privately owned and operated system of transportation surviving indefinitely in this country. Then there have been those who say that the only solution is compulsory consolidation. But any attempt to compel consolidation by Congressional action would bring about

extensive controversy and arouse intense opposition. Any arbitrary imposition of railroad groupings by the government on the private carriers would be unfortunate and instead of improving the situation for the railroads would probably make them more vulnerable to their competitors. Yet this very power over consolidation now rests with the Secretary of Commerce under Reorganization Plan 13 which went into effect in May of 1950.

It has been suggested that a government commission of able men should work with an advisory group made up largely of railroad executives and other transportation specialists in the preparation of the plan. The final plan should be submitted to Congress for approval or rejection.

Consolidation No Panacea

Of course, consolidation is not a panacea for the many ills of the railroad industry or of transportation in general, or the difficulties arising out of present regulation. But the railroads, in particular, must be put in a position to meet the vigorous competition of other modes of transportation which are sure to continue under present conditions.*

MOTO-TRUC

Designed for...

Pallet type
"Walkie" truck
4000 to 6000 lb.
capacity.

Platform
"Walkie" type
4000 to 10,000 lb.
capacity.

Hi lift "Walkie"
type 3000 to 4000
lb. capacity.

✓ PURCHASING DEPT.

Costs less . . . fits into budgets . . .
economical.

✓ ENGINEERS . . .

Rugged, all welded construction . . .
constant traction . . . stabilized 4 point
load support on Hi-Lift . . .

PLANT MANAGERS . . .

Small . . . compact . . . minimum opera-
tion and storage area . . .

✓ OPERATORS . . .

Simplified operation through "Roller
Grip" controls . . . anyone can operate the
truck with very limited instruction . . .

✓ MAINTENANCE MEN . . .

Especially designed for quick servic-
ing . . . all parts easy to get to . . .

Model G. A.
Tractor.

Regardless of individual titles, it will pay
you to get ALL the facts on MOTO-TRUC . . .
and there's a MOTO-TRUC for every purpose.

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The **MOTO-TRUC Co.**

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Pallet . . . Platform . . . Hi-Lift Trucks

LARGEST EXCLUSIVE MANUFACTURER
OF "WALKIES"

Circle No. 123 on Card, Page 35, for more information

Packaging Show

Reflects Return

Of Competition



Crowds at the AMA Packaging Exposition await the official opening—visitors entered at rate of 1000 per hour.



Edward P. Lee, General Foods Corp., opens panel session on "Optimum Performance from Filling Equipment."

Product displays of more than 350 exhibitors outline shift in package function from mere containers to salesmen in self-service marketing

THE competitive emphasis becoming more prevalent in American industry was evident in both the conference rooms and exhibit halls last month at AMA's 22nd National Packaging Exposition in Chicago.

Reflecting the shift in package function from mere containers to salesmen of their products in self-service retailing, package design and materials stressed eye appeal and product information. Even the once neglected shipping containers were spruced up to sell as well as protect.

27,700 Visitors

An estimated 27,700 visitors viewed the products of 350 exhibitors as the nation's \$7-billion-a-year packaging industry put on the biggest show in packaging history. Registration at the three-day AMA Packaging Conference, presented in conjunction with the Exposition, totaled 900. Those attending heard 30 speakers and session chairmen report on the newest developments in the field.

The Exposition policy of alternating the show's location was re-

affirmed at a meeting of the Advisory Committee. It was announced that the 1954 show will be conducted April 5-8 in Atlantic City, N. J. The 1955 show will return to Chicago.

Give Displays

Visitors got an inside view of the packaging industry from a number of "in operation" displays set up by manufacturers. A dozen cartons at a time were automatically accumulated, bundled and overwrapped in the booth of Hayssen Mfg. Co. Sylvania Div. of American Viscose Corp. set up a complete supermarket to show many of its 5,000 products now sold in cellophane packages.

A drip-proof can, now being market tested with a liquid detergent, was introduced by American Can Co. A new cartoning system which requires only one operator was shown by Wright Machinery Corp. General Machinery Corp. presented an automatic machine that puts flat articles in heat-sealing transparent film without the need of cards or trays for support and without the use of hand labor.

Tape Machine

An all-electric push-button tape dispensing machine highlighted the Ideal Stencil Co. booth. Shipping containers can be opened as easily as cigarette packages with the new tapes shown by General Gummmed Products, Inc., and Minnesota Mining & Mfg. Co.

The fast growing frozen food industry inspired a number of the new developments on display. For bulk packaging of frozen food, Reehm Mfg. Co. presented a steel drum lined with Saran, Dow Chemical Co.'s food packaging film.

Less wire is needed for carton stitching with the accurate method of wire stitching introduced by Acme Steel Co. The new technique adds an arc to regular flat stitching wire, making each pound of wire go farther and producing lighter, stronger, buckle-free stitches.

The conference papers, some of which will be presented in more detail in future issues of *DISTRIBUTION AGE*, treated every phase of this industry, including materials, machinery, administration, organization, sales and promotion, handling, printing, systems and allied interests.*

How to decide if it will pay you to

CLIP THE COUPON



If you clipped all the coupons you were asked to clip, you'd be plenty busy. So here's a handy checkchart to save your time. If you check just one item on the list, clipping the coupon can show you how to save scads of money. (First of all, stop right here if you do not receive or ship goods in multi-wall bags.) Now:

- I am a receiver who has fork truck equipment
 - I am a shipper who warehouses in bags and uses fork trucks
 - I am a shipper who uses wooden pallets
 - I am a shipper who is not equipped with fork trucks

The coupon will bring you the complete story of what MEAD POKE-PAK and the unitized load can do to help reduce breakage in transit; hold down tare weight; minimize claims on carrier; reduce man-hours to load and unload cars; save storage space; make for a cleaner plant; eliminate hand loading and unloading. Poke-Pak makes it possible to unitize shipments of bagged materials without the use of heavy, bulky, costly wood pallets. It gives you many other advantages, too.

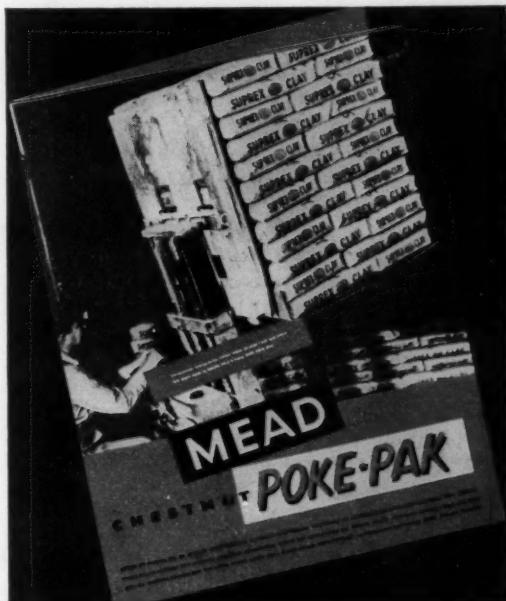
Unitized loads in multiwall bags on the expendable MEAD POKE-PAK is the modern, economical way to handle shipments. So if you use multiwall bags, sending the coupon can repay you handsomely.

MEAD BOARD SALES, INC.



LYNCHBURG, VA.

Offices: Chicago Newark



- MEAD BOARD SALES, INC.
Lynchburg, Va.

Please send me without obligation your folder on
the advantages of MEAD POKE-PAK.

Mr. —

Company _____

Address _____

City _____ Zone _____ State _____

Circle No. 124 on Card, Page 35, for more information

Re-packing Winter Tomatoes Cuts Market Spoilage

Equipment specially designed for low cost and speed now performs selective operation and prevents shopper from rough handling them

THE necessity of cutting down losses from vegetable spoilage has increased the rapid expansion of mechanical re-packing operations. When shipments of tomatoes, for example, arrive at Northern markets they are usually in three conditions: green, pink, or red-ripe. Formerly, when sold to retail food markets in an "as is" condition, there were considerable losses at the retail level because of rough handling in shipment and by market-day shoppers.

Re-pack warehouses throughout the country now perform this selective operation with equipment specially designed for low cost and speed. Some of the newest machines handle as much as a carload in an hour.

Last winter's crop of Florida tomatoes was in excess of 10,000,000 bushels. An estimated 60,000 acres were devoted to tomato cultivation in that state alone. Texas, California, Mexico and Cuba are other areas from which winter tomatoes are re-packed for safe shipping North.

New Conveyor

New conveyor equipment installed in the Dixon & Tom-A-Toe plant in Indianapolis, Ind., was designed and built by the American Machinery Corp., Orlando, Fla.

After being dumped on the conveyor, the tomatoes move through a spray hood for washing; then to

By C. E. Wright

a roller grader, with a cull chute alongside into which over-ripe or inferior specimens are dumped. Next, the color stripping belt, where the tomatoes are graded by hand; the green tomatoes are shunted to one side for return to the coloring room. Those that have been selected as marketable are run over three sponge rubber padded sizing belts, then to the distributing belts, which have a

carton make-up stand at the ends. After the cartons are made up they are shunted on a belt to the sealer for delivery preparation.

The Indianapolis installation, which is typical of many throughout the country, is supplied with empty cartons by conveyor chutes slanting downward from a mezzanine storeroom. In some re-packing plants tomatoes are re-packed in small cartons for the individual customer, a procedure that has further cut down losses in the retail food markets. *

Sponge rubber padding will help to ease the handling of winter tomatoes on this new conveyor designed and built by the American Machinery Corp., Orlando, Fla.



Look at the advantages of UNITED'S AIR CARGO SERVICE



Up to seven times as fast as surface transportation. The speed of United's Air Cargo Service benefits you, the shipper, in many ways.

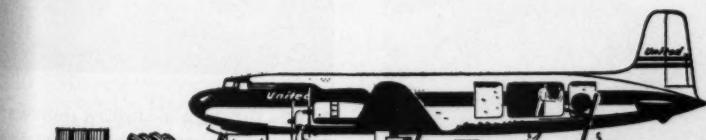
Eliminate Warehousing and keep inventories at a minimum. Because the products are immediately on their way to your customers . . . and to his customers, shipping by air simplifies distribution.

Day and Night Service Coast-to-Coast is provided, by United's fleet of 150 Mainliners and Cargoliners to expedite your shipments. The speed and efficiency of air freight such as United offers means that your entire business operation works faster and you get a quicker return on your financial investment.

United's Air Cargo Specialists will give your problems individual attention, as well as complete information on United's fine service direct to 78 major cities including Honolulu and, via connecting service, to anywhere in the world.

For complete information write:

**Cargo Sales Division
5959 S. Cicero Avenue, Chicago 38, Illinois**



PASSENGERS • MAIL • EXPRESS
FREIGHT • PARCEL POST



Circle No. 125 on Card, Page 35, for more information

New Products...

(Continued from Page 39)

Handles Up to 1000 lb

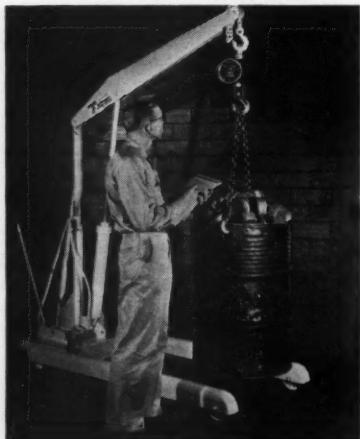
One of the new additions to the Big Joe line has a straddle type base that is available in widths up to 50 in. Forks, adjustable in any position, to widths that provide the best support for the load, are furnished in lengths from 25 in. to 36 in. and load at floor level. An optional remote control unit on battery models permits operator to travel with load, converting lift to a portable elevator.

Circle 62 on Service Card, Page 35

Floor Crane

A new addition to the Ruger 1953 line of floor cranes is this Model HP-18B, available in 1, 2, and 3-ton capacities. By turning the double-acting variable speed and power hand pump to right or left, the fulcrum block is raised or lowered on the threaded pump handle shaft. This regulates the pumping effort so that any load up to the full capacity of the crane can be easily lifted by one man. "No-tip" stabilizers turn up automatically out of the way.

Circle 63 on Service Card, Page 35



Rotatable Full 360 Deg.

The telescopic boom of this Austin Western indoor-outdoor crane can be raised from the horizontal to an approximate 40 deg and is continuously rotatable through a full 360 deg. All movements, including steering, are by



hydraulic power. The crane can lift and transport its maximum load any distance, through low clearance doors, and then, with boom extended, the hook can be raised approximately 18 ft or lowered below ground level approximately 13 ft.

Circle 64 on Service Card, Page 35

For Congested Areas

The new No. 3600 Cargo Tractor, manufactured by Kalamazoo Mfg. Co., is designed especially for fast efficient handling of materials in crowded, congested areas. It has a minimum turning radius of 57 in. and speeds up to 15 mph with 2-cylinder 13-hp air-cooled Wisconsin engine.



Circle 65 on Service Card, Page 35

MH Battery

Meeting heavier demands on all types of battery-powered materials handling equipment is the job for which the new type T-H Exide Ironclad battery was designed. A product of the Electric Storage Battery Co., this new battery has



larger positive plates, grids contain corrosion-resistant Silvium which contribute toward longer battery life. Extra heavy negative plates, pormax separators, new homogenized sealing compound, new seamless rubber jars are other features.

Circle 66 on Service Card, Page 35

Saves Manpower

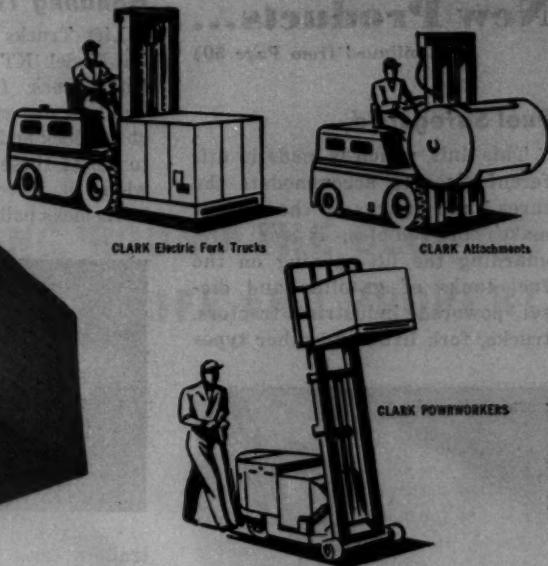
A new electric starting 3/4-ton capacity model has been added to The Prime-Mover Co. line of powered wheelbarrows. It will do the work of three to five men using pushcarts or hand barrows, the company claims. Only 32 in. wide,



it goes through standard doorways and maneuvers easily in confined areas. Two sizes of flatbed platforms are interchangeable with the 10-cu ft dump bucket, adapting it for warehouse work or moving heavy maintenance items.

Circle 67 on Service Card, Page 35
(Please Turn to Page 52)

Hoch-Blessing Photograph,
courtesy of the
EDWARD HINES LUMBER CO.



More people buy
CLARK
Gas Powered Trucks
than any other make!

THERE ARE A LOT OF GOOD TRUCKS on the market, and a lot of good arguments for each. But this fact remains: *more people buy CLARK gas powered trucks than any other make*. Since we produce all power types . . . gas, electric, diesel and L.P. gas . . . we feel we're in a good position to explain why:

CLARK Horsepower Is Capacity-Rated To Your Requirements—Why pay for excess horsepower that you'll never use? CLARK gives you five engines, rated according to truck capacity. You get plenty of power for the job, without a lot of gas-consuming excess. When you buy a CLARK in the size that's right for you, you get the proper horsepower, too.

CLARK Flexibility Meets Any Work Condition—A wide range of speeds and a constant source of power enables your gas powered CLARK to handle any work condition. Flexibility means round-the-clock performance of normal operations, with a built-in reserve of power for peak loads and emergencies. And for long hauls, you can't beat the speed and economy of the gas powered CLARK.

The relatively low initial investment cost of CLARK'S gas powered machines is another attractive feature, especially for the one- or two-truck

user. And these machines pay long-term dividends on the investment, because they're built for long service and for ease of servicing.

But then, that's true of all CLARK equipment: electric fork trucks, POWERWORKER hand trucks, industrial towing tractors—they, too, give you quality-value for your money. That's why industry buys more CLARKS than any other make of truck. When you're in the market for materials-handling equipment, talk to your local CLARK dealer first. Most people do!



CLARK ELECTRIC, GAS, DIESEL, L.P.GAS
FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 11, MICHIGAN
Please send: Condensed Catalog Have Representative Call
 Driver Training Movie

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AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

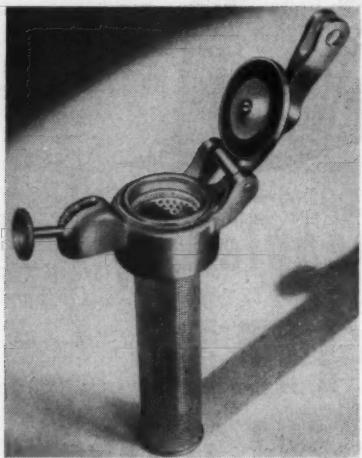
Circle No. 126 on Card, Page 35, for more information

New Products...

(Continued from Page 50)

Fuel Safeguard

This unit, which is made in different sizes to accommodate the thread and flanges on the various makes of vehicles, is for safeguarding the fill opening on the fuel tanks of gasoline and diesel powered industrial tractors, trucks, fork lifts, and other types



of material handling equipment. Manufactured by The Protectoseal Co., it brings pressure relief inside a tank by releasing fuel when fire is on outside, prevents fire from getting into the tank, and draws air into the tank to prevent collapse should sudden cooling of the tank cause a vacuum.

Circle 68 on Service Card, Page 35

Wire Cloth Belting

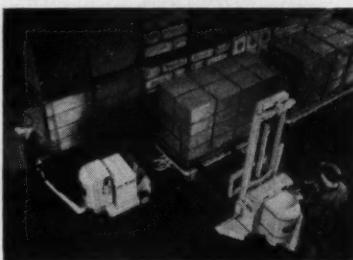


Versatility, strength and safety are the qualities manufacturers will find in woven-wire from the Cambridge Wire Cloth Co. Illustrated is a hoist gripper sling and bundle of bar stock being lifted in a vertical manner, showing the ease wire cloth can be adapted to cumbersome objects.

Circle 69 on Service Card, Page 35

Handling Team

Lift Trucks Inc. has introduced its Model KT Tractor and KHL Lift Truck for team operation. Trailers are systematically loaded at the dock and the tractor pulls one to six of these to the storage area where it leaves them. The Model KHL picks palletized loads from the

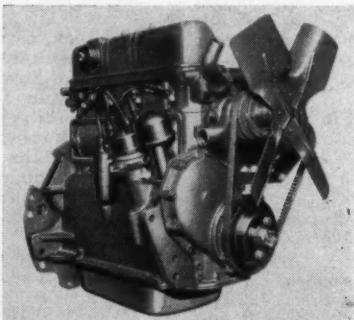


trailers and stacks them. The tractor arrives with another load of full trailers and returns with the empties. The same system is reversed when material is being shipped. The Hydroelectric features simple and well located controls, an easily interchangeable power unit, and simple but functional design.

Circle 70 on Service Card, Page 35

New Industrial Engine

Ford Motor Co. announces the addition of a four-cylinder, overhead-valve model to its series of heavy-duty industrial engines. The Ford "134" develops 45 brake hp at 2,400 rpm. Low-friction overhead-valves help to deliver more



horsepower per cubic inch displacement. Heavy-duty replaceable thin-shell precision copper-leaded bearings add to efficiency. The oil system has a full-flow filter with renewable element that cleans all engine oil and reduces ring wear.

Circle 71 on Service Card, Page 35

15-Ton Capacity

An Electraulic Lift Table with a capacity to 15 tons and a lift height to 42 in. above the floor in

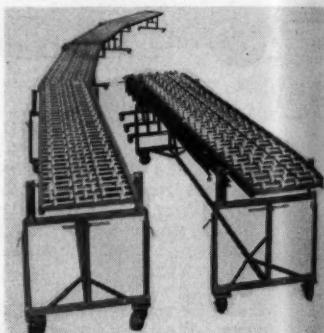


now being manufactured by Service Caster & Truck Corp. Each assembly carries its own motor-driven power equipment with suitable connectors and control switches to operate from a shop power line.

Circle 72 on Service Card, Page 35

Contracts to 10 Ft

Wilkie Company's new Telescopic Conveyor extends to a full length of 40 ft, but contracts to a space-saving 10 ft. Model WTC18 is only 18 in. wide and was developed primarily for the loading and unloading of trucks. It can be extended and contracted little by little when the truck is either being loaded or unloaded.



Circle 73 on Service Card, Page 35

Clean Sweep

Parker Sweeper Company's new motorized attachment for its industrial floor sweeper is powered by a 1-hp 4-cycle engine. Mounted on a rubber-tired steel chassis, the

(Please Turn to Page 54)

Complete Maintenance

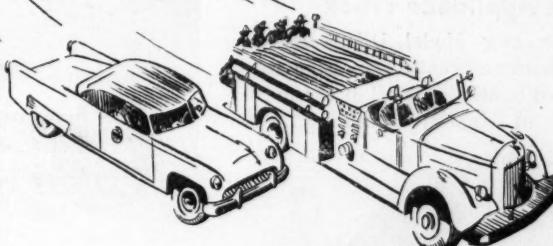


WORKING 'ROUND THE CLOCK TO PROTECT LIFE AND PROPERTY

Constant Supervision



Immediate Response



More than 49,000 properties throughout the United States, valued in excess of \$39,000,000,000, are safeguarded by protective installations connected to ADT Central Stations where specially trained personnel stand constant watch, 24 hours a day, to receive emergency signals and to take whatever action the situation demands.

This highly specialized service provides the minute-to-minute supervision and expert attention required to assure dependable operation of fire alarms, burglar alarms and other types of signaling systems. Trouble conditions are detected and reported for immediate corrective action. Skilled ADT technicians conduct regular inspections and tests and provide complete maintenance.

When necessary, alarms are transmitted promptly and accurately to fire and police departments and other protective organizations. Special ADT forces make investigations to protect subscribers' interests.

These are the features which lead protection experts to give strong endorsement to ADT Central Station Services. They are the principal reasons why so many business executives choose ADT when seeking to improve their safety measures.

Let us tell you how these services can be applied to give better protection at lower cost. Write for booklet, "Protecting Life and Property," describing the complete line of ADT Central Station Services.

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH CO.

155 Sixth Avenue, New York 13, N. Y.
CENTRAL STATIONS IN PRINCIPAL CITIES

ADT

Circle No. 127 on Card, Page 35, for more information

New Products...

(Continued from Page 52)

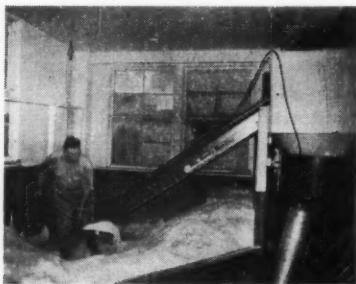


attachment couples to the wheel hubs of the sweeper with steel arms. Recommended for extra-large unobstructed areas, the attachment is quickly demountable to permit manual operation in close quarters.

Circle 74 on Service Card, Page 35

Multi-Purpose Conveyor

The Belt Corp. announces its newest lightweight, multi-purpose conveyor, Handy-Handler Model S. Weighing only 97 lb without power unit, it can be carried from job to job. Numerous kinds of ma-

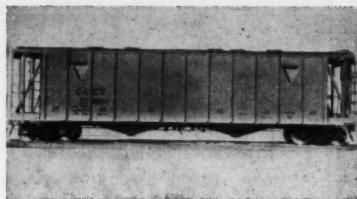


terials can be handled, including anthracite ash, feeds, fertilizers, salt, sawdust, candy and others. Its 16-ft length can be extended to 20 ft and is also available with 3/4, 1 1/2, 2-hp motor unit.

Circle 75 on Service Card, Page 35

Bulk Shipments

General American Transportation Corp. is now offering as an additional service of its car leasing lines a new type of special covered hopper car known as the "Airsider." Designed especially for bulk shipment of feeds, chemi-

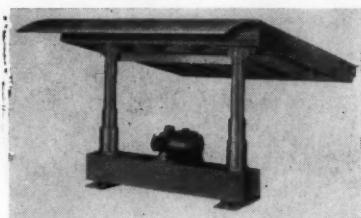


cals, starches, and similar commodities, the hopper has two trenches running the full length of the car. At the bottom of each there is a fabric strip, 1/4 in thick and 12 in. in width, which serves as an aerating surface and causes the lading to flow by gravity.

Circle 76 on Service Card, Page 35

Hydraulic Lift

The Leitelt hydraulic dock board, distributed by Karl A. Herman Co., has a 20,000-lb sustaining load, and a live load capacity of 15,000 lb per axle. A



single ram lift, with automatic safety stops, it is available in two standard sizes 6 ft x 6 ft and 6 ft x 8 ft long. It will be made, however, in any size to customer's order.

Circle 77 on Service Card, Page 35

Bulk Appliance Truck

The new Model DF-66 Escort Appliance Truck has been designed to eliminate all of the problems of appliance movers who



must move everything from oversize home freezer units to pianos. A special crawler tread enables it to crawl up and down stairs and over obstructions. Lying flat, this Stevens Appliance Truck Co. product rolls easily on its 6-in. wheels.

Circle 78 on Service Card, Page 35

Fume Killer

A catalytic fork-truck muffler that removes noxious carbon monoxide and hydrocarbon fumes issuing from gasoline engines permits drivers to operate their trucks with complete safety in



confined plant areas. Manufactured by Oxy-Catalyst, Inc., the "OxyCat" also prevents contamination of foodstuffs and other perishables that might be tainted by fork-truck exhausts.

Circle 79 on Service Card, Page 35

Capacity Over 500 lb

A new magnesium hand truck has been added to the growing line of magnesium materials handling equipment of the Magnesium Company of America. The Magcoa hand truck weighs 18 lb, but its rugged capacity tops 500 lb. It weighs 1/4 to 1/3 that of hand trucks made of other materials with comparable capacities. The light-weight heavy-duty truck is ideally suited for use on beverage and other delivery trucks and for general factory, warehouse and loading dock use.

Circle 80 on Service Card, Page 35

Industr
Fab-W
trailer
of capac
tomer's
peri-stra

full safe
features
Fab-Wel
wheel is
single a
a tapers
king pin
Circle 8

Speed
Acme
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Circle

Two
safely a
new ba
Nutting
banana
on the
heavy
frame
frame a
wide fir
Circle

Industrial Trailer

Fab-Weld heavy duty industrial trailers are built in a wide range of capacities up to 50,000 lb and in numerous types to meet the customer's requirements. Special super-structures, skeleton frames,



full safety plate decks and other features can be incorporated in Fab-Weld flexible design. The fifth wheel is of ball bearing type, both single and double race way, with a tapered thrust bearing at the king pin.

Circle 81 on Service Card, Page 35

Speeds Steel Strapping

Acme Steel Co. has designed a new power-driven strapping machine to speed high-volume flat steel strapping operations and reduce operator fatigue while producing strap joints by spot welding. It can be integrated into standard conveyor lines and can accommodate many different package sizes.



Circle 82 on Service Card, Page 35

Banana Truck

Two bunches of bananas can be safely and quickly handled on this new banana truck introduced by Nutting Truck and Caster Co. The bananas, suspended from hooks on the top frame, are cradled in heavy double canvas between frame side members. Auxiliary frame and top of main frame provide firm grip for the operator.

Circle 83 on Service Card, Page 35

Industry Items



Philadelphia firemen will learn to use fork lift trucks often found in warehouses and industrial plants to clear the way for fire-fighting and reduce materials losses. Presenting the truck to the Philadelphia fire school for training purposes is Elmer F. Twyman (left), vice president of The Yale & Towne Manufacturing Co. Trying out the equipment is Battalion Chief Joseph A. Meskill, officer in charge of the fire school. Paul B. Hartenstein and Chief George E. Hink (right), deputy fire commissioners, are accepting the truck

C. & D. Batteries, Inc. completed their west coast sales and service organization located at Los Angeles, San Francisco, Cal. and Portland, Ore.

Acme Steel Co. re-elected all 13 directors at the company's recent annual meeting.

Ford Motor Co. recently launched the William Clay Ford, new 647-ft ore ship at the Great Lakes Engineering Works, River Rouge, Mich.

The White Motor Co. and its agency, D'Arcy Advertising Co. received one of the five first place awards from the Associated Business Publications in their 11th annual competition for advertising in business magazines.

National Container Corp. announces the opening of its new converting plant at Memphis, Tenn.

Noel & Co., Inc., Nashville, Tenn., has added 150,000 cu ft of convertible space for refrigerating freezer products to its facilities by converting a room formerly used for ice storage. It has also converted five coolers to freezers over the past ten months.

Brocklebanks Cunard Service (Gulf) has inaugurated a run between Houston, Tex., and India and Pakistan—100th ship line serving Houston.

United Air Lines announces a broad program to increase aircraft servicing efficiency through installation of underground fuel and electric power facilities at its major terminals.

Materials Handling Products Corp., Syracuse, N. Y., has been appointed distributors of Yale industrial truck products.

Merchants Terminal Corp. opened a new refrigerated warehouse with a storage capacity of 2,000,000 ft for Greater Washington, D. C.

Eastern Industrial Sales Co., New Rochelle, N. Y., has been appointed by Hensel Green & Co., Chicago, Ill., as distributors for UNITOW industrial tractors in Eastern New York, Conn., and Western Mass.

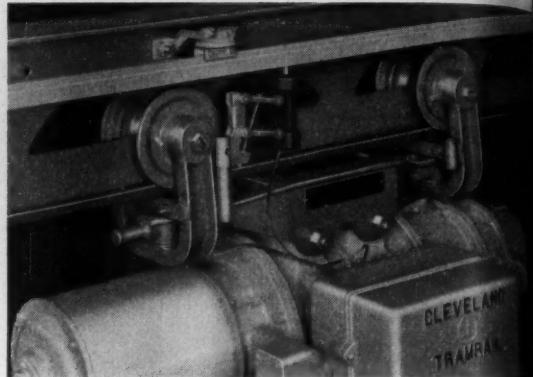
The Rapids-Standard Co., Inc., San Francisco, Calif., has been appointed west coast representative for The Raymond Corp., manufacturers of electrical industrial trucks and hydraulic elevating equipment.

International Harvester opened a new motor truck sales and service branch, Fort Wayne, Ind.

Koehring-Southern Co., manufacturers of excavators and hauling equipment, opened a new plant at Chattanooga, Tenn.



No. 13: Union Metal Work-O-Matic Tray was designed for handling material too long for standard length trays



No. 14: Cleveland Tramrail's sliding current collector shoes have proved life far greater than collector wheel

... Materials Handling Show

(Continued from page 26)

tomatic safe load indicator. Elwell-Parker displayed its new F-38T, designed for truck and carloading operations, warehousing and intra plant work. It is a 2,000-lb at 24-in. capacity, three-wheel, end controlled, stand-up, full telescoping electric power type.

Evans Products showed a life-size working model of the DF Loader, a box car load-locking, load-securing device. Faultless Caster included in its exhibit its full line of industrial and furniture casters, glides, furniture cups, floor truck locks and general products.

The Streamliner conveyor, slat, live roller, power roller, portable belt booster and gravity conveyors were featured at the Harry J. Ferguson booth. General American Transportation showed its new Airlslide car, a special covered hopper car.

Working models of the Self-Leveling Ramp, and the Production Lift were displayed by Globe Hoist Co. A miniature operating model of the P&H Magnetorque Overhead Crane gave visitors at the Harnischfeger booth a chance to test their abilities as crane operators.

Four new models were shown in the Hyster booth, including the YC-40, UC-30, XA-60 and ZA-80. The YC-40 is a 4,000-lb lift truck and the UC-30 is a 3,000-lb version of the same unit. The ZA-80 is an 8,000-lb model while the XA-60 is a heavy duty version of the same truck. Lamson Corp. put in actual operation for the first time an Automatic Pneumatic Tube Switch System.

Lewis-Shepard displayed its line of Spacemaster Model M trucks, with straddle, platform and open face pallet type trucks exhibited. Model M

right angle stacks in less than 6 aisles with 48-in. long loads. The Market Forge exhibit included the Log Mobile, tractor, freight truck, flat truck, fork truck, pallet truck and tier lift truck.

Portable Conveyors

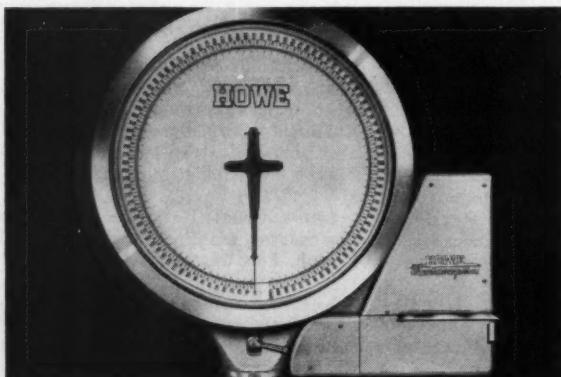
May - Fran Engineering used its booth space for working models of the Chip-Tote and Little Hustler conveyors and hinged steel conveyor belting. Featured in the Mercury exhibit were three entirely new units—the Yak 4, a 4,000-lb sit-down battery electric fork truck; the Tug electric tractor; and a new small Banty gasoline tractor.

Highlight of the Moto-Truc show was the new Grip-All Tractor, designed for moving 4-wheel trailers and containers. It features a new electro-hydraulic clamping design. Rapistan's booth was called a Carnival of Portable Handling Ideas, and featured seven new pieces of equipment from the Rapistan line of conveyors.

Revolator's Go-Getter electric walk-along truck, electric portable elevator, the Uplifter, and two models of hand lift trucks were shown. The motor's exhibit featured several company firsts, including their first die-

For additional information on Exposition products pictured on these and the following pages, Circle Corresponding Numbers on Reader Service Card, Page 35. For additional product description of items seen at the show, See New Products, Page 38.

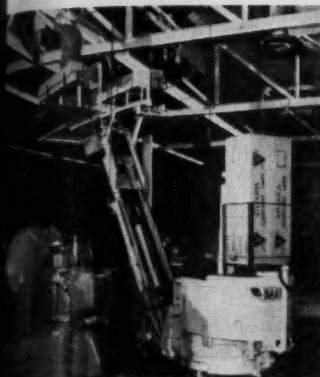
No. 15: Howe Scale Co. new Mechanoprint is claimed to be fast, rugged, accurate, modern mechanical recorder



No. 16: Increased load capacity and handy belt pitch adjustment are features of Rapistan aluminum belt unit



LOOKING INTO THE FACTS
... LEADS INEVITABLY TO MAGCOA



No. 17: Barrett-Cravens Lift-A-Loft solves overhead maintenance problems

powered fork truck, power steering and the new TomoTorque Drive. Yale's new Warehouser, a principal item in that company's display, features right angle stacking in 5 to 6-ft aisles, short length and light weight, leadman control and one lifting hydraulic cylinder for good visibility.

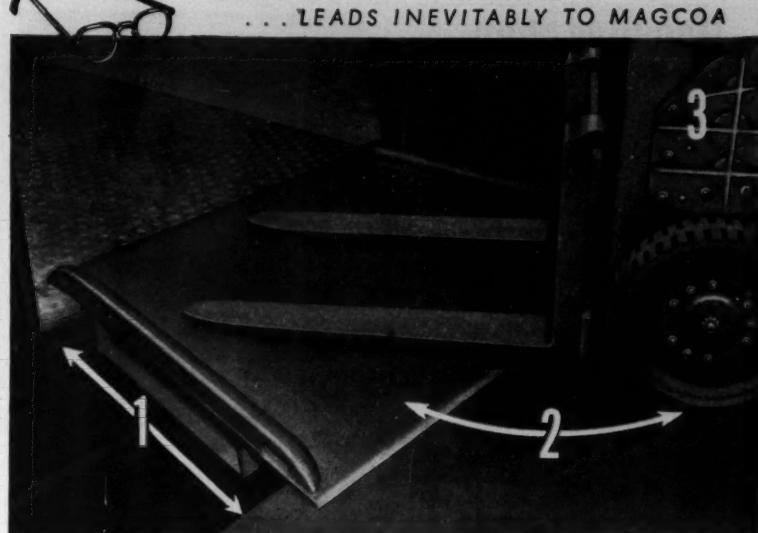
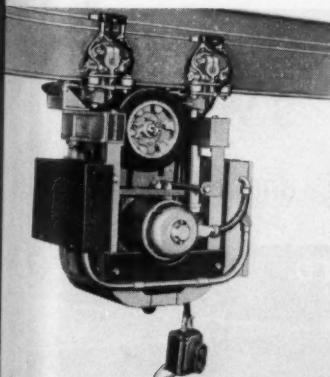
Selective Storage

Chicago Tramrail exhibited its new Stak Rak selective storage system featuring the Stak Rak Crane. This Col-Moore featured push button control electric hoists and rope control models. The Whiting Corp. Trackmobile demonstrated how it can spot freight cars in on and off track operations.

Material used in pallet tiering and construction of pyramid racks was shown by Paltier Corp. The Wilco Lifetime Pallet was demonstrated by Willford Mfg. Co. It features steel springers and oak deck boards. Baker-Cull Corp. demonstrated its Traveler side-loader (see Page 28). Battery displays included the C & D Five-Fold Slyver-Clad model, Gould's Deep Show with the talking battery

(Please Turn Page)

No. 18: American MonoRail's Mono-Tractor is for heavy speed or duty



This light-weight HEAVY-DUTY **MAGCOA DOCKBOARD** is a Better Investment . . . and here's why

1. **Made for this Specific Span**—You know the problem of bridging car-dock and truck-dock spans. No problem in this case: the Magcoa representative specified the exact size Dockboard for this span.
2. **Made for this Specific Turning Radius**—This is a narrow dock. The lift truck's turning radius could have presented a problem—but didn't. This Magcoa Dockboard flares out just enough for this narrow dock . . . permits part of the turn to be made while the truck is on the board.
3. **Made for this Specific Truck and its Load**—As you know, the weight of different handling equipment and loads varies considerably. No problem here: this Dockboard was made for the specific weight requirements of this company's equipment with top capacity loads.

Quick Delivery—Long Life—Low Net Cost—Ordinarily you'd assume that equipment designed for specific requirements would get a premium price or take longer to manufacture. No problem on that score: Every Magcoa Dockboard is manufactured on a mass-production basis; and, if there is sometimes a price differential, it can be checked off as negligible compared to the greater long time value you get in a Dockboard that fits your specific needs.

Safety, Economy, Efficiency Features—Only Magcoa gives you all these features: (1) rounded curb-ends for safer turns, (2) quarter-round safety curbs that protect tires while preventing run-offs, (3) comfortable one-piece hand holds for safe lifting and positioning,

- (4) angled crown that keeps edges flush on floors, (5) rounded edge beveling that saves tires, equipment, loads, and (6) rugged safety spans for extra strength and elimination of slipping.

Magcoa Service—At Your Service—If your Dockboard needs repair because of abuse or misuse, Magcoa Service is at your service—to put your equipment in good working order, in short order!

Looking into the Facts is the title of our new facts file. It's loaded with information you ought to have to make a sound Dockboard investment . . . and it's yours for the asking. At the same time, look into the new Magcoa Portable Yard Ramp. It's a rugged, high-speed loading dock . . . where and when you want it.

MAGNESIUM COMPANY OF AMERICA MATERIALS HANDLING DIV., EAST CHICAGO 3, IND. — Representatives in Principal Cities

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30 Rockefeller Plaza
PHILADELPHIA 18,
8001 Southampton Ave.
WASHINGTON 5, D. C.
Walker Bldg.
HOUSTON 17,
7657 Moline St.
LOS ANGELES 34,
8922 W. 25th St.
SAN FRANCISCO 4,
Russ Bldg.

Please send: Dockboard Facts File Portable Yard Ramp Literature 3

Name & Title _____

Company _____

Address _____

City-Zone-State _____

Circle No. 128 on Card, Page 35, for more information

... Handling Show

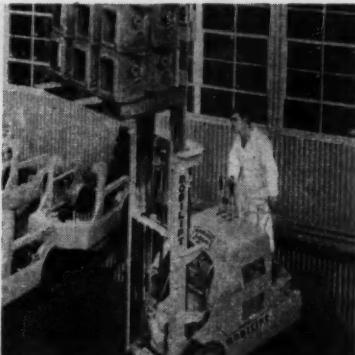
(Continued from Preceding Page)

and 3-D display, Exide's Ironclad batteries, and Edison's Nickel, Iron Alkaline models.

A magnetic separator for sheet steel was displayed by Basco Mfg. Co. Dempster Bros. introduced their DTLF Dempster Dumpster along with the Dempster Balester. Equipto Div. of Aurora Equipment Co. displayed open and enclosed steel shelving with stationary or adjustable steel shelves.

Auto Nailer Co. demonstrated a machine which in one motion cuts and drives its own nails from a coil of nailing wire. A dial tape dispenser with electric control was featured in the Marsh Stencil Machine Co. booth. Ideal Stencil Machine Co. showed automatic stencil cutting machines and marking accessories.

Westinghouse Electric called its exhibit a phono-mimic. It consisted of a demonstrator explaining the display in pantomime, a tape recording which contained the message and several sets of earphone for visitor use. Whiting Corp. set up a Stackcrane for selective stacking, and an



No. 19: Mobilift's display featured fork trucks with Lev-R-Matic Drive

improved Trackmobile for spotting, switching or hauling freight cars.

AMHS Conference

James J. MacDonald, General Electric Co., was co-chairman of the AMHS Conference session opening on Tuesday, May 19. The program was as follows: "Handling in Process"—moderator, George A. Smith; co-moderator, S. P. McDaniels; "Warehousing and Shipping"—moderator, E. J. Klinstiver; co-moderator, Harold L. Bock; "Packaging for Improved Handling"—moderator, R. C.



No. 22: Baker-Raulang's Gas-O-Matic truck has no clutch or gear shift

Mottu; co-moderator, F. H. Lee; "Bulk Handling"—moderator, O. W. Werner; co-moderator, J. M. Broady; "Requirements for Organization- Study-Analysis"—moderator, Donald C. Rhodes; co-moderator, Donald R. Neil.

Co-chairman for the Wednesday, May 20, session was Norman R. Shikes, RCA Victor, with the following program: "Handling in Process"—moderator, J. Wilfred Ferguson; co-moderator, James R. Bright; "Warehousing and Shipping"—moderator, Adolph L. Sebell; co-moderator,

Specify
DARNELL
CASTERS

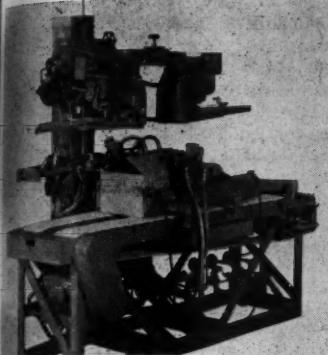
There is a type of Darnell Caster or Wheel for every kind of use and floor. Made for light, medium and heavy-duty service, you are sure to find in the Darnell line the exact caster or wheel to meet your individual requirements . . .

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SWIVEL
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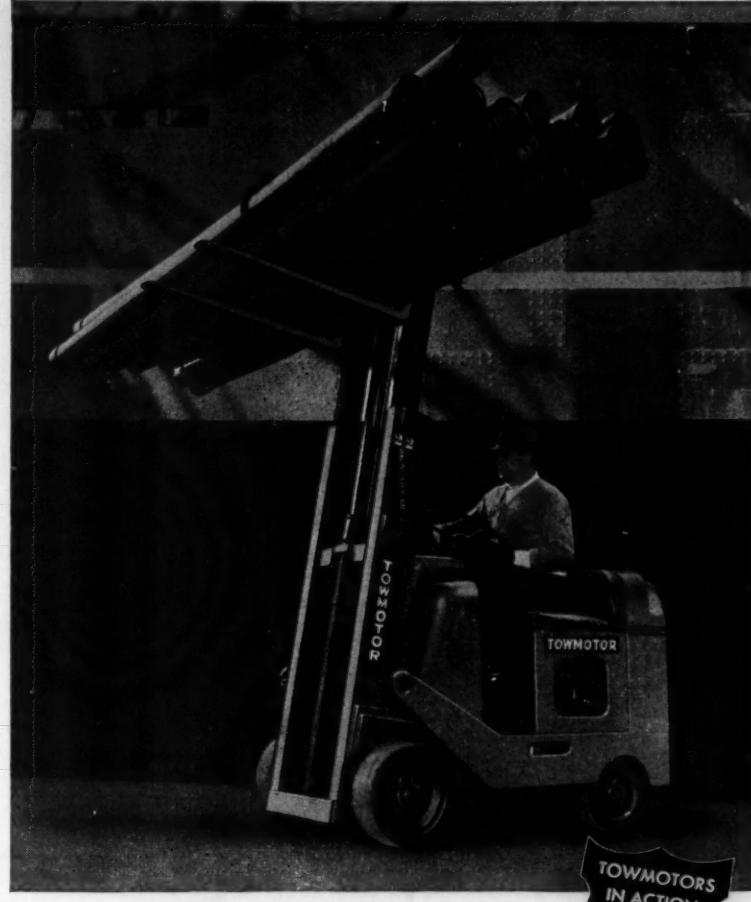
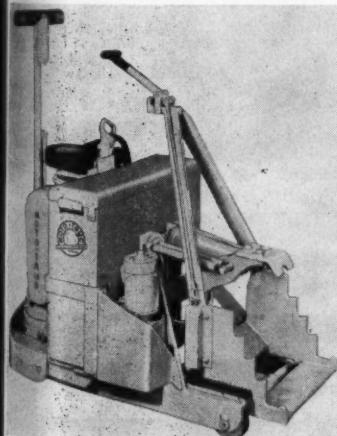
No. 20: International's new unit for the stapling of all center slotted cartons

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ator, William T. German; "Packaging for Improved Handling"—moderator, Carl R. Plock; co-moderator, Adrian V. Van Riper; "Bulk Handling"—moderator, Benjamin H. King; co-moderator, F. W. Adami, Jr.; "Requirements for Organization-Study-Analysis"—moderator, Alfred L. Struck, Jr.; co-moderator, C. W. Wirshing.

Edwin S. Kostro, Philco Corp., was co-chairman for the final conference on Thursday, May 21, with the following program: "Handling in Process"—moderator, R. W. Mallick; co-moderator, Lee B. Russell; "Warehousing and Shipping"—moderator, L. George Roedding; co-moderator, G. M. Holland; "Packaging for Improved Handling"—moderator, Ray E. Pigg; co-moderator, R. W. Hawkes; "Bulk Handling"—moderator, W. W. Phillips; co-moderator, Charles H. Asher; "Requirements for Organization-Study-Analysis"—moderator, Herbert H. Hall; co-moderator, Allen F. Hardy. •

(Resume Reading on Page 27)

No. 21: Moto-True Grip-All Tractor has electric-hydraulic clamp design



Anything from pipe to pretzels, Baltimore Stevedoring finds Towmotor more than equal to the task.

TOWMOTORS
IN ACTION
IN U.S.
INDUSTRY

The Big Cinch...

Little inch or big one, any job's a lead pipe cinch with Towmotor speed-loading materials handling up to double and more for you . . . and the boss. Results like that are no pipe dream, thanks to TowmoTorque, the new automatic transmission that helps you crowd extra hours into every working day. And Power Steering that's easy no matter how long your operators drive. Or the new Cushioned Power Diesels that handle like sissies and perform like the frugal brutes they are. Plus many other Towmotor features that help you get so much more done . . . so much more easily. Send today for booklet describing TowmoTorque and Power Steering. TOWMOTOR CORPORATION, Div. 1906, 1226 E. 152nd Street, Cleveland 10, Ohio.

TOWMOTOR
THE ONE-MAN-GANG

FORK LIFT TRUCKS and TRACTORS
SINCE 1919

TOWMOTOR ENGINEERED FOR QUALITY PERFORMANCE
Circle No. 130 on Card, Page 35, for more information

Insurance Requirements . . .

(Continued from Page 19)

systems. This protective device lowers the fire rate and creates a need for another coverage, Sprinkler Leakage Legal Liability insurance, a form that is often overlooked;

d. Warehousemen's Legal Liability—This is a special policy designed to provide indemnity for loss of or damage to stored merchandise resulting from all perils other than fire and sprinkler leakage. In some instances, it may be difficult to determine the exact cause of certain losses, it is advisable to purchase the Warehousemen's Liability policy, a casualty form, with the same group of companies that write the fire insurance coverages.

Floater

3. Floater—Warehousemen may also operate as public truckmen. Some limit their activities to the transportation of household furnishings and maintain special facilities for the storage of this type of merchandise; others store and move practically any type of merchandise.

The Federal Government and many states recognizing the vast extent of the trucking business have enacted numerous laws to determine the

truckmen's liability and to require certain coverage on customer's property in transit. The required protection is quite limited, although recently increased, and most truckers carry more adequate insurance.

The Truckman's policy may be written either under:

a. The Blanket Form—every truck is listed and a limit of liability assigned to each. The annual rate is applied to the aggregate limit, or

b. Gross Receipts Form—a predetermined rate is applied to gross receipts including charges for packing, crating and trucking without deduction for fees paid to connecting carriers.

Limitations

The Truckman's form has a number of limitations which should be reviewed to determine their effect upon each individual truckman. Some of these limitations refer to goods carried gratuitously, paintings, statutory (unless loss is total) livestock loss (other than death or necessary destruction) claims, and the perils of riot, strike or civil commotion.

The Theft protection may limit coverage or even exclude certain "target"

commodities—liquors, tobacco products, silks, tires, furs, jewelry, drugs and other items of merchandise that can be easily disposed of.

It is also advisable that the Floater be carried with the same company that issues the Premises Legal Liability forms because of possible overlapping claims.

4. Public Liability Insurance—The operation of retail stores and auctions for the disposal of stored merchandise creates a need for Owners, Landlords and Tenants Liability insurance. This sale of this merchandise develops a Products Liability exposure which should be insured.

Crating and packing of customers' property is usually performed on the customers' premises. Adequate Bodily Injury and Property Damage limits should be selected.

5. Compensation Insurance—Trucking Association or Union regulations may require that loading and unloading operations at destination be performed by workmen other than the truck drivers or their helpers. If the destination is in a state other than the one in which the truckmen maintain headquarters a special endorsement should be attached to the Compensation policy.

Truckmen engaged in Interstate transportation have special "all state" schedules or riders attached to their policies. •

(Resume Reading on Page 20)

30 years' experience with Gerstenslager Vans

In a letter sending us this partial view of the T. G. Buckley Company's warehouse as a background for three new Gerstenslager Custom-built Vans Robert J. Casey, general manager of the company, says: "We naturally are very proud of these units and in our opinion they are the finest looking equipment on the road in this area.

"Please consider this letter your authority to use our name as a most satisfied user of Gerstenslager equipment over the last 30 years."

THE GERSTENSLAGER CO., Dept. D
Wooster, Ohio

Established 1860

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GERSTENSLAGER

VANS • TRUCK BODIES • SPECIALTY BODIES
From Wooster to the World of Transportation

Circle No. 131 on Card, Page 35, for more information

5-Mile Conveyor . . .

(Continued from Page 22)

At the terminal, conveyors have been erected along the north side of two railway sidings. Six cars are unloaded at one siding and—by bridging across through cars with conveyors—an additional six are handled on the other siding. Future plans call for conveyor unloading of 20 cars.

Through traffic controls, these lines feed into three lines. These, in turn, on reaching the basement of the freight terminal fan out for inspection needs. From inspection stations, cases and cartons are fed onto double-deck conveyors passing through the tunnel. On reaching the basement of the Bottling House, the bottles can either be removed and placed in storage or can proceed on conveyors that join the triple-deck trunk soaker feed line along the west wall of the Bottling House.

Full Goods Lay-out

On the full goods lay-out, empty cartons are made up on the fourth floor. They're placed on conveyors and fed directly to the third floor bottling lines at the carton-filling position.

After the cases or cartons have been filled, they can be routed from each of the bottling lines to overhead conveyors to the third floor and carried across the overpass to the freight terminal for rail shipment, fed through openings in conveyors equipped with traffic controls to full goods storage on the second floor, or to full goods storage on the first floor.

Full goods overhead conveyorization is so blended that eight upper conveyors—through the expediency of traffic controls—merge into a double-deck conveyor line that spans Notre Dame street via the overpass to the freight terminal.

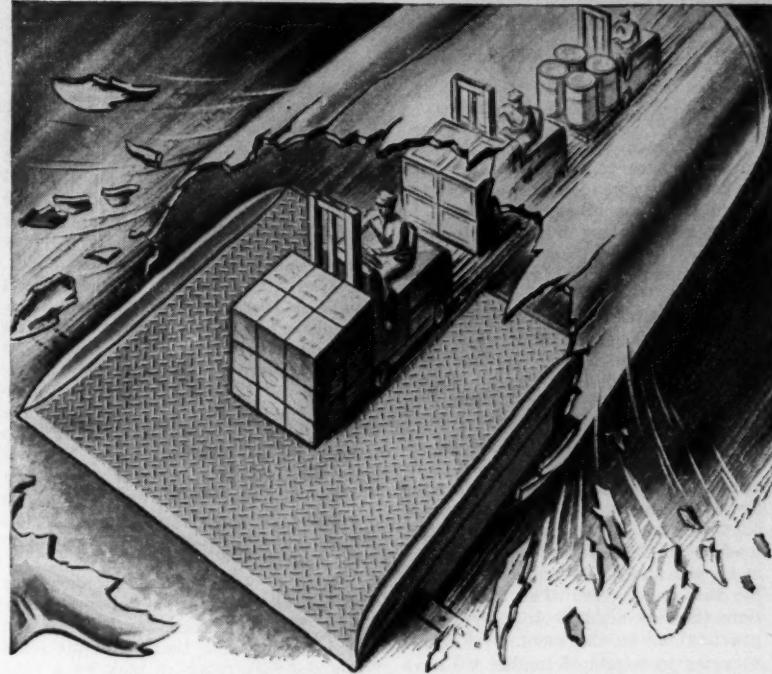
At the freight terminal, full goods may either be removed for storage or carried by conveyors to service up to 12 railway cars. The main run paralleling the railway sidings consists of triple-deck conveyor lines. These three-position belt conveyors have take-offs to facilitate loading of any car.

Unit Load Savings

It's particularly on full goods handling where unit-load fork truck handling has brought savings. The size of Dow's pallets fluctuate with the weight of materials handled, but are targeted to ensure that no load carried will be less than a ton. For that reason, 48 x 48-in. pallets are used to stack empties while smaller, 38 x 48-in. pallets handle full bottles.

Bottling house stacking is usually in three tiers, about 15 to 18 cartons, with the load of each pallet ranging from 35 to 80 units. •

(Resume Reading on Page 23)



Smash Loading Bottlenecks!

Increase the loading capacity of your existing facilities...without major capital expenditure! Do it by equipping your docks with Magliner magnesium dock boards. Custom-engineered to facilitate traffic flow, these light-weight, easy-to-handle units permit smooth, fast transit between dock and freight carrier. Eliminate loading jams and carrier tie-ups! Break costly bottlenecks in shipping and receiving with magnesium-light, magnesium-strong Magliner dock boards! Write today for descriptive bulletin DB-204.

MagLiner
MAGNESIUM
DOCK BOARDS

NEW! DAMAGE-PROOF SAFETY CURBS!

New Magline safety curb prevents wheel impact—major cause of all dock board damage! Get longer service life . . . better service performance . . . with Magliner magnesium dock boards!

REINFORCED CURB ENDS!

... of cast magnesium! Dowelled-in — welded construction! Double strength where it is vital! Flared design permits easy wide-angle turns and prevents tire damage. Roomy, comfortable hand grips for easy carrying.

WRITE FOR DESCRIPTIVE BULLETIN DB-204

Standard Dock Boards Also Available—Write for Information

MAGLINE INC. • P. O. BOX 344 • PINCONNING, MICHIGAN

Circle No. 132 on Card, Page 35, for more information

Side Loader . . .

(Continued from Page 29)

Utilization of Space

In taking up the matter of storage-yard layout we remind the reader that we are here considering only the use of the three machines shown in Table I and are limiting ourselves to how they may be used to secure the maximum amount of storage in a given area.

It is important, therefore, to know what aisle spaces are required by each machine when it is maneuvering empty and when it is handling a 30 ft load. This information is given in Table II.

We are assuming that we are bringing lumber from a distant point to be stored in a fenced area 240 ft wide by 395 ft long, with a central entrance on the short side. The end and side-loaders do the hauling. A fork truck is to put away the loads brought in by the end-loader. The side-loader tiers its own burden. In order to be practical as to the amount of space occupied by a pile of lumber we have allowed 32½ ft by 5 ft as the space taken up by a 30-ft by 4½-ft load.

Yard Lay-Out

Plan A is a portion of a symmetri-

cally laid-out yard for side-loader handling. The two end aisles could have been 11 ft wide, instead of 35 ft as shown, but then 19-ft longitudinal aisles would have been needed. The wider aisles give the machine the chance to line up its load for delivery into the relatively narrow 10-ft aisles.

The 35-ft aisles are needed at both ends of the area because the side-loader can tier only to the right of its path of travel. It is not feasible to run the machine down the aisles backwards, so it must be able to move down the aisle, turn around and come up in the reverse direction if it is to pile two tiers back-to-back. Nothing would be gained, in fact more space would be lost, if transverse aisles were used because the "out of an 11-ft into a 19-ft aisle" condition would have to be met.

Plan B is the most economical use of storage space with an end-loader and fork truck combination. In the wide central aisle there is ample room for the fork truck to pick up a load deposited near the end and the end-loader can turn through 180 deg when empty. Hence, there is no need for maneuvering space at the far end of the yard.

From the standpoint of selectivity,

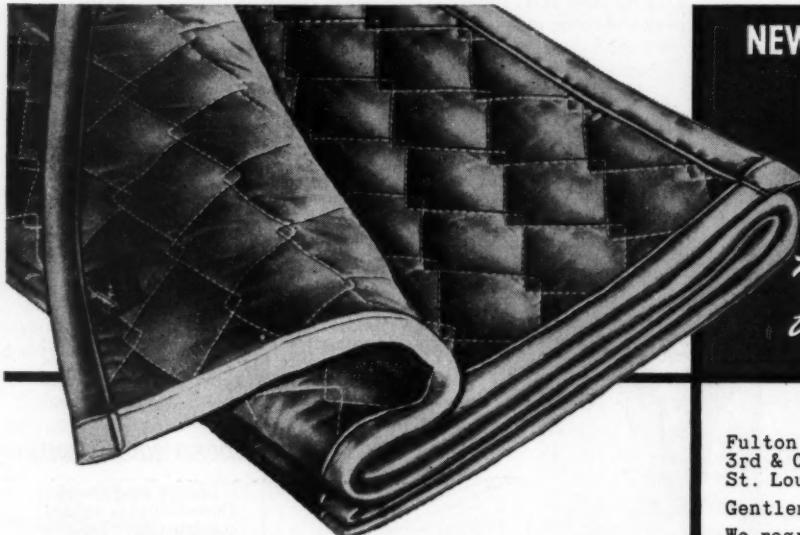
there is no comparison between Plan A and Plan B. In the former, every tier is readily available, whereas in the latter there is no chance for "in, first out" selection.

Plan C shows how selectivity can be improved through the addition of another aisle. Here the depth of the aisle has been reduced, at the expense of usable storage space, from 20 to 18 ft. If another aisle were added, the plan would be but four-deep. The storage area would then be reduced 48 percent to 45,000 sq ft.

Operating Considerations

One-man-operation is a feature of the side-loader stressed by those who favor this method. There are instances where it is a decided advantage. When, however, we compare the two methods we are considering here, there is not always a 2-to-1 advantage in manpower. It would not require much elapsed time for a straddle carrier and fork truck to put away a given amount of material as for a side-loader to do the same job.

Further, much would depend upon the way the work of the two machines was planned. If the outside run were a long one, the logical arrangement would be to have one fork truck serve two or more haulers. Or, the car could drop its load and let work accumulate for the fork truck in order to keep this machine active. This pro-



NEW LOCK-STITCH (non-raveling) Seams. Fulco two-tone gilt edge furniture pads are "the favorite" of warehousemen, van lines, and department stores everywhere . . . the toughest, longest wearing, most satisfactory furniture pad money can buy! Guaranteed satisfaction, or your money back.

Fulton Bag & Cotton Mills

Atlanta • St. Louis • Dallas • New Orleans • Denver • Minneapolis
Los Angeles • Kansas City, Kans. • New York City, 347 Madison Ave.
Winter Haven, Fla. • San Francisco • Phoenix

Circle No. 133 on Card, Page 35, for more information

NEW DIAMOND STITCHED
FULCO
FURNITURE PADS
make friends wherever they go

January 15, 1953

Fulton Bag & Cotton Mills
3rd & Cedar Streets
St. Louis, Missouri

Gentlemen:

We regret that we have not written you sooner to tell you how very much we liked the "Fulco gilt-edge two-tone furniture pads," which we recently purchased from you. Please believe us when we say that we were certainly pleased in every way with them and although we are not a large user of furniture pads, you may certainly be assured of our future re-orders.

Sincerely yours,

NULL & SONS FURNITURE STORE
Signed Erwin C. NULL

supposes that there is other material to be piled for which the high-lift could be used.

We are attempting here to make an impartial analysis. The flexibility in the type of work that can be done by the side-loader and by the straddle carrier-fork truck combination makes this difficult. The one-man operated side-loader can pick up, carry and tier unit loads, but the machine can tier from one side only and then can put away only as far as its forks can reach.

The straddle carrier can do everything the side-loader can do as far as transporting loads is concerned. In fact, its relatively shorter length and wheelbase make it more maneuverable. The fork truck is, of course, a far more flexible tiering unit than the fork element of the side-loader. This does not mean that the side-loader has not a definite place in the handling field. Let us look briefly at some of its specialized functions.

Special Operations

One of the types of handling operations where the combination machine has a decided advantage over other methods is in situations where materials are to be hauled some distance and then deposited at the side of a roadway. An example is the delivery of pipe to a crew which is laying the pipe in a highway ditch. The side-

loader can move the pipe economically and can either set it to one side, or release it as individual units stretched along the ditch in which it is to be laid.

Another successful operation has been its use in handling cable on large spools. Utility companies have been sending out increasingly large units of this type. A special cable and spool attachment with a powered spindle makes the side-loader almost a "natural" for laying operations.

Palletization

In addition to being able to handle large, bulky loads all three machines can be used in palletized operations. Both the straddle carrier and the side-loader can transport one or more pallets. The straddle carrier is able to pick up wing-type pallets which have the correct length top boards to fit between its shoes.

The machine we have been discussing would require a pallet at least 54 in. wide and can carry as many as will ride on the shoes, which are 99 in. long. The side-loader can handle a single pallet with 54-in. stringers and top boards which come within the limits of the loading bay—77 in. Both these machines can carry more pallets through the use of trays—the quantity is limited largely by their lifting capacities of 10,000 lb.

In such operations the fork truck and straddle carrier give far more

flexibility than the side-loader. It requires considerable maneuvering for the side-loader to dispose of the pallets on a tray which it has just deposited at the side of its path of travel, and even then, it can deposit them only one-deep. We find here the same limitations in flexibility and maneuverability that we experienced in the open-yard operations.

High Selectivity

Where high selectivity in storage is a must, the side-loader is the most efficient method of handling, transporting, and tiering materials which are long and bulky. It also offers distinct advantages over other methods of handling in long distance hauling where the material is to be placed to one side of a path of travel.

The one-man feature of the side-loader is less advantageous than appears on the surface and can be considerably minimized if the work of two machines working as a team is carefully planned and coordinated. This is especially true if there is other handling work to be done.

The new type of machine has unique characteristics which fit it to certain highly specialized operations, but it cannot, in most instances, provide as flexible or economical an operation as the end-loader and fork truck combination. •

(Resume Reading on Page 30)

The Captain's Choice

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"Prompt pilotage service day and night in clear or foggy weather assures me a fast and safe dispatch of my ship."

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PORT OF LOS ANGELES



Board of Harbor Commissioners • City of Los Angeles

City Hall, Los Angeles 12, Calif.

Circle No. 134 on Card, Page 35, for more information

For Indirect Labor . . .

(Continued from Page 34)

Employees are genuinely enthusiastic about the plan, and management is pleased with the 37 per cent reduction in costs. Also of major importance is the fact that now available are the data and the tools necessary for proper management control. Enthusiasm for the plan on the part of both management and order fillers resulted in placing the order writers on incentive too.

Standard Approach

We have seen examples of successful installations of incentives for indirect labor not usually covered by such plans. It must be remembered that while not all work can be placed under a sound incentive, experience has shown that at least 80 per cent of the indirect labor in most plants can successfully and profitably be given a bonus plan.

The standard approach follows:

1. Time study the operation for several days of normal operation, recording all the doings of the operator in the smallest time increments practicable—to hundredths of minutes.



"I wish you'd tell that fork truck operator to be more careful with his paper-roll grab attachment."

2. Analyze these data and revise the work cycle pattern to the simplest number of elements changing methods and adding equipment as necessary to achieve the simplifications.

3. Apply time studies to these new methods.

4. Determine the elements that comprise the work cycle.

5. Combine all the elements that have a constant time into one factor.

6. Prepare the required tables of standards for the elements with variable time values in the most usable form.

7. Develop the simplest time-keeping and payroll procedure that will yield correct results.

The approach is practical and can be used with assurance. It does require a large number of initial time-study man-hours and several weeks and sometimes months of compiling work, but the accomplishment is so gratifying in savings and good labor relations that it is a highly valuable investment. •

(Resume Reading on Page 35)

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● A deadly weapon against germs and insects is an aerosol fog. Its microscopic particles penetrate the smallest cracks and holes, settle lethal doses of insecticides in the darkest corners, where vermin nest. Ordinary sprayers can not do this because the particles are too large. To produce an aerosol fog efficiently and economically, use the MICROSOL^{*} 202. This mechanical fog generator does not use heat or steam (which disintegrate some insecticides). No need for awkward attachments like nozzles and air compressors. The MICROSOL^{*} 202 is entirely portable...light, sturdy, easy to operate, no maintenance. Do your exterminating with the MICROSOL^{*} 202. Use it anywhere! Use any kind of liquid germicide, insecticide, deodorant, or humidifier! Use it and see the difference! MICROSOL^{*} units available in many sizes and with many capacities. Ask your insecticide dealer or write for more complete information.

SILVER CREEK PRECISION CORPORATION • Silver Creek, N.Y.

Circle No. 135 on Card, Page 35, for more information

Washington DA

(Continued from Page 15)

officials have reported to Congress that seven of the 35 are completed, are already in operation. Another 11 are expected to have been launched by the end of June.

Another 14 are expected to leave the ways during the ensuing 12 months, leaving perhaps no more than three for completion during last half 1954. All of the vessels are more than 20 per cent completed, Maritime officials say.

Trip-Leasing Regulation

It still looks as if trip-leasing of trucks may be outlawed. Reason is that unless Congress passes legislation specifically taking such power away from ICC, the agency will put its pending order—prohibiting truck leases for less than 30 days—into effect just as soon as Congress adjourns.

Supreme Court has held that ICC has authority to issue the order. Legislation forbidding ICC to enforce the regulation is before congressional committees for hearings. Agriculture is almost solidly against the trip-lease ban—but Congress may not have time to act before July adjournment.

Automatic Increases

Approval by Congress of the so-called automatic rate increase legislation is still a long way off in spite of pressure by the railroads for its enactment. As it stood last month, the bill (S-1461) would make it mandatory for the ICC to put into effect within 60 days any rate increases requested by the railroads. If the rate finally approved by ICC should be less than asked, the railroads would be required to make refunds of the overcharge. Even if approved by the Senate Interstate Commerce Committee, a crowded calendar seems likely to long postpone a Senate floor vote. House plans are even more nebulous.

Ships for Storage

Department of Agriculture last month began the job of storing 12,000,000 bushels of wheat in the holds of 50 or so moth-balled ships of the reserve fleet, now tied up in the Hudson river off Jones Point. Wheat was acquired through the crop support program—and more is in prospect. Grain will be aerated with help of 290 ventilating units and 800 perforated extension tubes.

Size-Weight Standardization

Public Roads Commissioner Francis V. duPont expects to work for adoption of standardized sizes and weights for commercial vehicles throughout the country. But so far, he has steered clear of coming out in favor of any particular standards. Before he makes any definite recommendations along this line, he feels, there should be more "factual determinations" obtained than resulted from the Maryland road test. Better, broader and "more conclusive" tests are to be made in Idaho and Illinois this year.

(Resume Reading on Page 19)

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...and COMPLETELY PROTECTS YOUR SHIPMENT!

For shipping metal goods, textiles, furniture, leather, rubber, wood products, foods in containers, etc.

Fibreen gives you

• Protection against rough handling—Rugged Fibreen resists rips, cracks, and punctures—it's reenforced with tough, closely cross-laid fibres of steel-like strength.

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—and Fibreen is

• Easy-to-handle—It's flexible and is quickly formed around contours. Saves time and labor.

• Light weight—Makes a compact package—reduces shipping and storage costs.

• Low in cost—Available in widths of 36", 42", 48", 54", 60", 72", 84", and 96" . . . also with a new non-asphaltic adhesive.

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Hampers**

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Specifically designed for shipping, storing, and safe, easy handling of retail merchandise, this Lane Style 67 Shipping Hamper incorporates all these quality features for long, dependable service at very low cost:

- Sturdy, easily-locked, pilfer-proof plywood covers.
- Extra-strong end-grips to take roughest handling.
- Over-all design ideal for stacking.
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STANDARD SIZES AVAILABLE

Style 67

No.	Long	Wide	Deep
6	30"	20"	20½"
8	34"	22"	23"
10	36"	24"	25"
12	36"	26"	27½"

Lane canvas baskets, hampers, and trucks are built to take it, built to last! There are many canvas baskets, but there's only one Lane. Always look for the LANE mark — to be sure! See your Lane distributor or write . . .

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Circle 137 on Service Card, Page 35

66

Handling of Liquid Materials . . .

(Continued from Page 41)

gal pump is situated alongside the tanks and by use of a series of lubricated cocks, with neoprene gaskets, can pump the caustic potash to the drum filling station or to the truck platform as well as to the holding tanks on the sixth floor.

All welded steel pipes are used in all caustic potash lines to prevent leakage. The pump can be electrically operated, both in the basement and on the sixth floor, in order to control the flow. The holding tanks are a pair of 500-gal capacity set on stands and with a large scale glass sight gauge for approximate calibration. From the holding tanks caustic potash is approximately measured to the forward tank to which it flows by gravity. At the forward tank more accurate measurements can be made and from there the required amount is released to flow by gravity into the soap kettles.

Vegetable oils and fatty acids may arrive by tank cars or tank trucks, mostly the former, and, except pine oil, which remains liquid, congeal at 70 to 80 deg F. They have to be heated so that they will flow easily

into the receiving tanks. Consequently high pressure steam is conducted to points at the railroad siding and the truck dock so that by means of the flexible steel hose it can be connected with the coils in the tank car or tank truck as the case may be.

There are two receiving tanks, each with a capacity of 1,500 gal. One is kept exclusively for coconut oil, which, as it is made into toilet soaps, must be kept uncontaminated. The other is for vegetable fatty acids and pine oil. The inside of these tanks and those on the fifth floor and the piping have been litho-coated by a plastic process to prevent corrosion by acid. Steam coils have been set under and around each tank with about an inch space between the coils and the tanks.

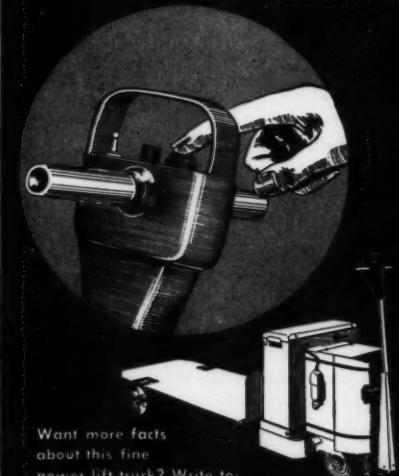
The steam coils are kept away from the tanks and outside so that the heat will not be localized at any one point, which causes discoloration of the material and perhaps induces oxidation and rancidity. All pipe lines carrying oils and fatty acids have copper tubes.

After dropping by gravity into the receiving tanks, the material has to be removed by pumping to the tank

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There is a model for every purpose to handle any kind of material.

Circle No. 138 on Card, Page 35, for more information

DISTRIBUTION AGE

41) arm on the fifth floor, since a car
will contain 8,000 gal.
The pump is of stainless steel to
reduce acid corrosion factor. It can
be actuated from several different
positions depending upon its use in a
system of cocks. One pump can move
the vegetable oil or fatty acid to the
rum filling station, to the truck plat-
form, to the tank farm on the fifth
floor or to the pine oil storage tanks
in the sixth floor.

At the tank farm and the pine oil
storage tanks, the same 1,500-gal
tanks are again used and, except for
the pine oil tanks, externally heated.
The tank farm is contained in a spe-
cially insulated room so that higher
room temperature can be maintained.
All these storage tanks are individu-
ally filled, the pump being started by
separate circuit for every tank, all
of which are fitted with automatic float
switch to relay which shuts off electrically
when the tank is filled. It is
necessary to start each succeeding
tank by push button.

The vegetable oils and fatty acids
have now been received and stored
ready for use. After every operation,
where these flow through the pipes,
the pipes are immediately blown back
with live steam to clean them.

Pumping System

When it is necessary to use these
materials the appropriate cocks are
set and the line connected for pumping
into the measuring tanks. The pump
in the tank farm is identical to
the one by the receiving tanks and
can be used either to pump from the
tank farm to the measuring tanks up
in the sixth floor or vice-versa, or to
pump the materials back to the first
floor in case we are storing materials
or other business. This pump can be
again actuated at the points of use
as well as by the pump itself.

The weighing tanks are set on
scales which have been calibrated in
order to allow for the weight of the
tanks. These tanks are also thermo-
plastic coated, steam jacketed and insu-
lated and have each about 500-gal
capacity. From there the vegetable
oil or fatty acid flows by gravity to
the soap kettles, in the amount re-
quired by each batch. All these lines
are blown clear after use.

The pine oil flows from its storage
tank by gravity to a small forward
tank by the soap kettles or to the
weighing tanks and then to the dis-
infectant kettle in a similar procedure.
The flow into the weighing tanks
is through high pressure Rexweld
bronze braided hose. In cases where
only small quantities of liquid ma-
terials are required by the formula
of the particular products being used,
drums of particular products are
stored on the sixth floor.

After the products are finished off
in the kettles, the kettles are opened

(Please Turn Page)

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Goods move swiftly in the warehouse, on
the loading platform, in the yard... with
Wisconsin-powered equipment on the job.

Here is "loading power" and loading effi-
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truck transportation field. Dependable
AIR-COOLING, heavy-duty construction,
compact design, light weight, easy-starting
in any weather, uniform power delivery,
low cost maintenance and quick avail-
ability of original factory parts if and
when needed... these are some of the
factors on which builders and buyers of
power equipment bet their money when
they specify WISCONSIN POWER.



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lift truck,
built
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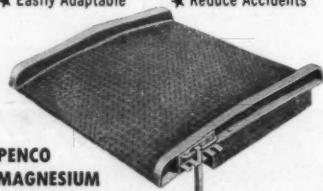
Penco lightweight Magnesium Ramps are your answer for 100% loading and unloading dock operations. There is a Penco style and size for either car docks or for truck docks . . . ready for instant use without installation expense. Sold nationwide by Material Handling Distributors.

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- ★ Easily placed in Position
- ★ Easily Removed
- ★ Easily Transported
- ★ Easily Adaptable

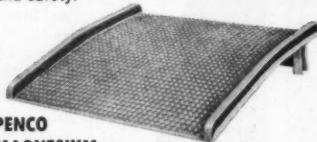
Sturdy Construction

- ★ Made of heavy duty diamond safety plate
- ★ Non-Skidding
- ★ Heavy Side and Center Trusses
- ★ Reduce Accidents



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CAR LOADING RAMPS**

are made in both Flared and Rectangular (see photo) models in capacities from 3,000 to 10,000 pounds. Car Door Stops and full range positive Locking Device are Penco exclusive features that give wide adaptability and safety.



**PENCO
MAGNESIUM
TRUCK LOADING RAMPS**

are made in both Single (see photo) and Two-Section types in capacities from 1,000 to 5,000 pounds . . . with exclusive Penco Ramp Stop . . . expedite operations using hand trucks, transporters or light fork trucks. The Penco Two-Section type is designed for use where materials handling equipment has a low under-clearance, and where loading docks are much lower than truck floors.

Send for descriptive literature—get all the facts on the many superior features available only in Penco Ramps. Penco also manufactures a wide range of steel models.



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STREET _____

CITY _____

ZONE STATE _____

Circle 141 on Readers' Service Card

Handling of Liquid Materials . . .

(Continued from Preceding Page)

by cocks in the bottom and the product flows by gravity to finished storage tanks on the first floor.

High Pressure Steam

We should inject at this stage the system we have installed for high pressure steam, which is quite economical.

To be near its main use, the boiler room is located in the sixth story section of the fourth floor, southeast corner. It is enclosed in buff-colored glazed tile and has two 6 ft x 7 ft fire doors on the North and West sides.

We use a high pressure 125 No. combination oil-gas 84 hp boiler. It is fired with a mixture of natural gas having a gas pressure of five in. The fire is controlled with a high fire delay time which is an electro-pneumatic time delay switching device. The feed water is controlled electrically by two water cut offs connected to a feed water condenser system and water heater.

The blow off is a centrifugal blow down type. The steam heater is mounted two ft above the boiler and has six 3-in. outlets; one to the soap kettles, and one to the measuring jacketed tank and scales on the sixth floor. One 3-in. line runs to the tank storage farm on the fifth floor; one 3-in. line runs down to the first floor of the four story section and from this we take steam for the tank cars and storage tanks in the basement, tracer lines, soils under the scrub soap tanks and other general uses.

All these steam lines are dripped into steam traps. Condensation from the fourth, fifth and sixth floors returns to the feed water condenser water system in the boiler room on the fourth floor. All other condensation is returned to the system in the basement storage and is pumped to the condenser in the boiler room on the fourth floor.

Hot Soap Run

In the case of liquid soaps, however, the hot soap is run by gravity to a covered storage tank where it is allowed to stand until cooled to room temperature. Then it is run into a cooling tank which is provided with an agitator and a cooling coil, through which passes a refrigerant "Freon." The soap remains in the cooling tank until it reaches a temperature of 34 deg F.

The soap is then clarified by filtering at 34 deg. A filter aid is added to the cooling soap and thoroughly mixed before filtering. This is designed to improve the clarity of the soap and also speeds up its flow.

The soap runs by gravity into storage tanks in the shipping department. These tanks are under air pressure to give more rapid filling of drums. All liquid hand soaps are finished at a concentration of 40 per cent. This reduces the quantity to be filtered to less than one half and to the same extent reduces the number of storage tanks and storage space. When liquid hand soap of a lower percentage is ordered, the 40 per cent soap is diluted with soft water to give the desired concentration.

Storage Tanks

All storage tanks including those containing soft water are piped to a manifold located at a 1,000-lb capacity scale with one-lb graduations. A labeled drum is placed on the scale and the required additives in a graduate are added to the drum. The hose from the 40 per cent soap tank is inserted into the drum. To make the desired soap, the quantity of 40 per cent soap required is read from a chart. Then the scale weights are moved until the scale shows the quantity desired. The flow is controlled by a solenoid valve.

The starter button is then pushed and the flow automatically stops when the correct weight is in the drum. This brings the dial hand back to zero. The soap hose is removed from the drum and the soft water hose is put in the bung hole of the drum. Then the weight of water necessary is read off the chart and the scale weight moved until the dial hand shows this weight. Then the starter button is again pushed and the flow automatically stops when the drum is filled to desired weight.

Although our liquid raw materials arrive in tank cars or trucks, the nature of our business demands that our outward shipments be in drums. Thus even to our warehouses in New York and Texas, though we will ship in car or trailer loads, the products will be in drums.

We find that agitation, which products receive in transit has more of a beneficial effect than otherwise, for it merely mixes the mixture better. Foaming is not a problem. Agitation does not appear to cause emulsion breakdown.

This system of handling liquids, we have found efficient and economical requiring a minimum of labor and storage. Like most good things, the system did not happen overnight, nor was it the result of mere blueprint planning. Rather it was a culmination of our own experience combined with the best professional advice.*

(Resume Reading on Page 44)

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Chuting the News . . .

(Continued from Page 13)

SIPMHE Names Officers, Three Regional Directors

Alvin S. Roberts, Insurance Co. of North America, has been appointed national vice-president of the Society of Industrial Packaging and Materials Handling Engineers.

Roberts was appointed to fill the unexpired term of I. E. Thomas, Chicago, who resigned. John W. McReynolds, Kraft Foods Co., Chicago, was named national secretary to succeed Roberts.

Three new regional directorships have been created by SIPMHE. Appointed to fill them are F. Ray Christian, Lockheed Aircraft Co., western regional director; E. B. Candell, General Electric Co., central regional director, and John Mount, Insurance Company of North America, eastern regional director.

—DA—

Pacific Intermountain Express has started operations from its newly completed terminal in Las Vegas, Nev. PIE has also established a new branch terminal at Provo, Utah.

—DA—

Packaging Award

The Industrial Bag and Cover Association has established an annual award of three prizes for development of "a form fitting flexible package for an article not presently packaged in bag or cover form." Announcement of the award was made by Philip O. Deitsch, administrative officer of the I.B.C.A.

—DA—

Modified Service Orders

Upon representations of the DTA, the ICC has modified Service Orders affecting railroad freight car movement. These changes eliminate Saturdays in computing demurrage and eliminate penalty demurrage provisions except as to flat cars. This action was taken because of temporary easing of the freight car situation.

(Resume Reading on Page 15)

Circle 143 on Readers' Service Card

SPEED?...SAFETY?...SAVINGS?

THEY'RE YOURS WITH A

LO-HED CAR PULLER



With a Lo-Hed Car Puller at your siding, cars will be loaded and unloaded a lot faster. You'll also eliminate a cause of accidents, cut demurrage costs and abolish shifting charges . . . Lo-Hed Car Puller saves money inside a plant, too. Rugged, electrically-driven, it pulls anything within its capacity. Write for full facts.

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AE Products are: Taylor and Perfect Spread Stokers, Marine Deck Auxiliaries, Hydrantile and Hale-Shaw Fluid Power, Lo-Hed Hoists, Lo-Hed Car Pullers.

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Revolvator Go-Getter — telescopic straddle type lift truck — a bear for work in crowded areas, narrow aisles. Fully automatic — extraordinarily maneuverable 200° turning arc — 2500 lb. capacity — very slight operator training necessary. Write for full details of this and many other models.

RE VOLVATOR CO.

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Materials HANDLING EQUIPMENT

Item NS-515	All metal PALLET
Item C-596	MULTI-PURPOSE CART
Item NS-298	SHOVEL TRUCK
Item B-426	Industrial DUST PAN

BARREL TRUCK
It Loads Automatically
Three style wheels: metal, rubber, or metal and pneumatic. Capacity 1000 lbs., 22" wide for narrow openings. Weight 85 lbs.

Automatic END DUMP
Ideal for handling and dumping of sand, scrap, castings, stampings, and other heavy materials. Locks during loading by safety catch. Built for lift or fork truck or with casters. All welded construction. Standard size $\frac{1}{2}$, 1 and $1\frac{1}{2}$ yds. capacity, other sizes on request.

When Ordering—Always give "Item" number. All prices f. o. b. Detroit. Prices are subject to change without notice. Write for Catalog.

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Circle No. 145 on Card, Page 35, for more information

WITHIN THE

By Leo T. Parker

Legal Consultant,
Distribution Age



WAREHOUSING

A few days ago I received an interesting letter from a warehouseman, as follows: "What is your advice regarding warehousemen permitting owners of stored goods to remove from storage certain articles and items? We have had trouble lately with the owner of stored goods who removed some silverware from her goods and now she claims that other items she did not take are missing. What is the law? If we prove that she took some of the silverware from storage are we relieved from liability to her for the items she claims she did not remove from storage, but which she claims are missing?"

According to a late higher court decision, the answer is no.

For example, in *C— v. S— Storage and Van Co., Inc.*, 15 So. (2d) 664, it was shown that an owner stored household goods with a warehouseman. Eight years later the owner called for her goods and discovered that merchandise valued at \$600 was missing from a cedar chest. The testimony proved that on many occasions, during the period of eight years, access was had thereto by the owner.

Notwithstanding this testimony the higher court held the warehouseman liable for \$600 and said that the fact the owner had access to the cedar chest many times showed only that some of those things might have been removed by her and that she had it within her power to remove them, but that this testimony was not sufficient to overcome her statement that she did not remove them.

The legal effect of this decision is important. It means that an owner need not direct the warehouseman's attention to articles of unusual value in small containers. Moreover, if the owner calls to inspect the goods, or otherwise gains access to the goods, the warehouseman must take particular care that such owner has no opportunity to secretly remove articles of value.

In order to avoid liability the warehouseman should send an employee to witness the articles taken by the owner from storage, and have such owner sign a receipt listing the various removed articles. Failure of the warehouseman to take these precautions will result in his liability, if the owner denies that he removed from storage various articles he claims subsequently are missing.

Is warehouseman liable for loss, damage or theft of stored goods if he fails to employ watchman?

The answer is no, not always but generally. Failure to supply a night watchman usually is held to be negligent which results in liability, providing the warehouse is in such location that other reasonably prudent warehousemen would have thought it necessary and advisable to employ a watchman.

For example, in the leading case of *W— warehouse Co. v. L—*, 141 S. W. (2d) 28, it was shown that a night watchman usually was employed to watch and guard the warehouse. However, one Saturday this regular watchman was discharged. The warehouse burned about two o'clock that morning. The owners of the destroyed goods sued the warehouseman to recover the value of their destroyed merchandise.

The warehouseman contended that he had used ordinary care to prevent loss of the goods because hydrants were at close intervals outside and inside the warehouse building, and further, the city maintained a fire department. In view of the fact that the warehouseman had failed to provide a night watchman, the higher court held the warehouseman liable.

All higher courts agree that if the income derived from operating a warehouse does not justify employing a night watchman, the warehouseman is not negligent for failure to employ a watchman.

For comparison see *O— Warehouse Co. v. P—*, 117 So. 834. Here

it was shown that at 5 o'clock in the morning a warehouse, with its contents, was destroyed. The evidence showed that the walls of the warehouse were constructed of brick; its roof was of metal; its windows were protected by metal shutters, which were closed; there were ventilators, properly screened, in the roof; the warehouse building was kept clean and free from dirt and debris; there was adequate connection with the city's water mains, and water barrels were kept filled and placed at convenient points throughout the building.

The warehouseman did not employ a night-watchman, nor had he installed an automatic sprinkler system, because the income from the warehouse was not sufficient to justify these expenses.

In subsequent litigation the higher court relieved the warehouseman from any liability, and said:

"We do not think that the fact that no night watchman was employed, constitutes any degree of negligence, on the part of the warehouse company. . . . We do not think the warehouse company in this case has failed to exercise that care in its warehouse which the owner would have exercised had the goods been in his possession. Would P— (owner of the goods) have employed a night watchman to watch during the still hours of the night, at a time when the . . . (merchandise) was securely located in a building composed of brick walls, with a fireproof or metal roof, and no place of entrance, save at the doors, which were securely shut and locked? . . . Common human experience teaches us that negligence may not be based on trifles, but must be based upon those things which should arouse the attention of a reasonably prudent person in the care of his own goods."

"Our warehouse company issued a warehouse receipt which contained this clause: 'The valuation of any one package, and contents, or a complete article, is limited and not unless specially declared in advance, in writing, by the bailor or owner of the goods in which event an additional insurance premium and an additional storage rate must be paid by the bailor and liability for such excess valuation accepted by the bailee subject to the terms of the insurance policy.'

Is warehouseman's liability limited to \$50 for \$500 loss of TV set claimed by bailor?

Generally speaking, the owner of stored goods is not bound by a liability limitation clause printed on a warehouse receipt if the owner does not in some manner assent to the limitation. Otherwise the clause is void. See *C— v. S— Storage* (Please Turn to Page 86)

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Letters to the Editor

(Continued from Page 8)

We ship pool cars to Pacific Coast destinations. When the car leaves the point of origin all of the freight in the car is stenciled for various consignees. The San Francisco Car will contain, in addition to shipments for San Francisco consignees, shipments for consignees in Oakland, Sacramento and other points in California. These other shipments are forwarded either L.C.L. or L.T.L. by the warehouse. Now, are those shipments (which were in the pool car to San Francisco) interstate or intrastate when they are shipped from San Francisco to Oakland or Sacramento. If they are legally "intrastate" then we want to insist that the intrastate rates be applied on them. In some of the states to which we ship our pool cars the intrastate rates are cheaper than the interstate rates.

It appears in your answer that you are confusing the liability of the carrier on the pool car into St. Louis with the other question of "State Vs Interstate." It is true that the liability of the carrier ceases when the car is unloaded at St. Louis but does the unloading of the car and taking possession of the freight at St. Louis make the marked shipments "intrastate" when they are finally shipped from St. Louis to another point in Missouri?

There is still another side to the

question. We note the writer of the letter said "Much of the freight loaded in these pool cars is marked for our factory points." It is evident that some of the freight in the car was either marked for St. Louis or was not marked at all. When the pool car left the point of origin there was no intention that this portion of the shipment would go any place but St. Louis. It probably was to be held at St. Louis for a requisition from any of the other factory points. It would appear to us, therefore, that when



"... and get a load of this extra vegetable storage bin."

this unmarked freight was shipped from St. Louis to fill an order, or requisition, from some other point in Missouri that particular shipment would then be *intrastate*.

Mendel A. Keith
Traffic Manager

International Shoe Company
St. Louis, Mo.

A state cannot tax merchandise or products shipped in interstate commerce, unless the materials are permanently stopped or stored in the state.

For example, in the leading case *Walling v. Jacksonville Company*, U.S. C.R. 332, the Supreme Court of the United States held that a "partial or temporary" stop of goods in state does not change the interstate commerce character of the shipment. However, where the merchandise is stored and later sold to purchasers in the state the state authorities may tax it.

Other courts have held that when materials are stopped in transit in the state for sorting or distribution the state may tax the materials. This is as the shipment is stopped for a definite and unnecessary purpose. On the other hand, if the materials are stopped by necessity as because of a flood, lack of cars, or transportation facilities, or due to a strike, or by government order the state cannot tax the materials.—Leo T. Parker
Legal Consultant.

and Firms are Arranged Alphabetically

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Men in the News . . .

(Continued from page 13)

Traffic

Richard C. Brown, assistant plant traffic manager, Pabst Brewing Co., appointed Plant Traffic Manager to succeed the late **A. M. Shaad**. **R. L. Kickbush** becomes assistant plant traffic mgr.



Frank G. Moore—named general traffic manager, Columbia-Southern Chemical Corp.

Grant Arnold—succeeds Franklin G. Ibach, retired, as general traffic manager, E. J. Lavino & Co.

Robert G. Lane—new traffic manager of the National Radiator Co.

E. V. Hill, vice chairman of the Traffic Executive Assoc.—Eastern Railroads, has been elected chairman, succeeding **John J. Fitzpatrick**, who has been appointed assistant vice-president-rates of New York, Chicago and St. Louis Railroad Co.

Ross E. Jones, Jr.—manager of transportation and warehousing, H. J. Heinz Co., assigned to conduct study of the company's distribution

system. **R. A. Peterson** will serve as acting manager of transportation and warehousing.

George D. Cron, traffic manager, Chevrolet Motor Co., Oakland, Calif., re-elected general chairman, Pacific Coast Transportation Advisory Board; **George E. Vawter**, traffic manager, Sun-Maid Raisin Growers of California, Fresno, Calif., re-elected general secretary.

C. V. Donaldson, traffic manager, Consolidated Dairy Products Co., elected chairman, The Seattle Traffic Association, succeeding **F. Wayne Fuller**, traffic manager, Fisher Flouring Mills Co.

Transportation—Air

James S. Rockefeller—elected director of Pan-American World Airways.

James H. Cobb—new vice president of public relations and advertising Delta-C & S Air Lines.

—Water

Brig. General Hugh T. Mayberry (USA Ret.)—new Washington, D. C., regional representative of the Georgia Ports Authority; **Tom Talmadge**—representative for the Chicago, Ill., area.

Neil S. Walsh—named president, States Marine Steamship Corp.; **Arnold D. Frese**—executive vice president.

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—Highway

R. W. Allen, elected vice president of the Mack Motor Truck Corp. and appointed manager of the company's Central Division. He joined Mack in 1926 as a payroll clerk.



—Rail

Anthony N. Gantzer—named district manager, Car Service Division, A.A.R., Pittsburgh, Pa. He succeeds the late **J. F. Duesenberry**.

E. H. Bailey—appointed general manager, Union Pacific Railroad's northwestern district. He succeeds **Lewis A. Collins**—retiring after 42 years' service.

Warehousing

Jerry Johnson—past president of the NARW, recently appointed chairman, Allied Industry Committee, National Fisheries Institute.

Richard Gorman, Atlas Van Lines, Chicago, Ill.; **George Howard**, Howard Van Lines, Dallas, Tex., and **B. LeRoy Burnham**, Burnham's Van Service, Columbus, Ga.—new members, Shipper Relations Committee, MCA.

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Space for lease. Specs. in height, 100 min. Siding 10 ft. up to 40 ft. O. & S. elev.
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Elt. Com.: Fagr. Type Elev.; Frt. Plat. Elev.; 8 Plat. Trk. Mach.; 4 Elev. Plat. Trk.;

40 Plat. Trk.

Within the Law

(Continued from Page 70)

& Van Co., Inc., 23 So. (2d) 36, where the testimony proved that a warehouseman issued a warehouse receipt containing a \$50.00 per article limitation clause. The higher court held the clause void because the receipt was given to the owner after the goods were accepted into the warehouse for storage.

For comparison, see C— v. P—, 114 Ohio St. 76, 151 N. E. 39, 142 A.L.R. 768. Here the testimony showed that a warehouse receipt had printed thereon a usual limitation clause. The receipt was given to the owner of the goods at the time of delivery of the goods to the warehouseman. Also, the owner's attention was directed to the limitation clause and he knew that if he wanted additional protection he could pay additional costs.

The higher court held the limitation clause valid, because the storers had "contracted" to be bound by the limitation clause.

But in B— v. S— Moving & Storage Co., Mo. App., 176 S. W. (2d) 58, the higher court held the limitation clause void. In this case the warehouseman mailed a warehouse receipt, containing a clause limiting liability, after the goods were accepted for storage.

This court held that the owner of goods was not bound by a limitation clause, because he had not assented to it.

A warehouseman is more likely to win a suit of this nature if he proves that the owner of the goods signed the warehouse receipt which contained a limitation clause printed in type larger than type used in the body of the contract. Here is a simple legal precaution which all warehousemen should take: Always have the limitation clause in larger and more conspicuous type than the body of the contract or receipt. If the owner of the goods reads the contract, he certainly must read and know the contents of the limitation clause. If the owner of the goods fails to read the conspicuous limitation clause, he is negligent and nevertheless is obligated by the clause.

Can warehouse sell goods
for overdue charges when chattel
mortgage is held by another?

A reader writes: "Several years ago a man placed household goods in our warehouse for storage. Last week we received a letter from a furniture company advising us that it held a chattel mortgage on the

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40 Plat. Trk.

stored goods. Can we advertise and sell these goods for overdue storage charges? If not can we collect overdue storage charges due from the company which holds the chattel mortgage?

Modern higher courts consistently hold that a warehouseman has a prior lien on stored goods to secure storage and other charges unless another prior lien existed before the warehouseman accepted the goods for storage. For example, in D— v. D—, 167 N. Y. 121, the higher court held that although a person has a mortgage on goods stored does not make him liable for the storage charges, except if the testimony shows that he agreed to pay the storage bill. On the other hand a warehouseman can sell the goods for storage charges, but he must pay the mortgagor the amount due on the chattel mortgage, if that mortgage lien is prior to the warehouseman's lien. See I— v. S—, N.Y.A. 837.

For comparison, see D— v. D—, 95 Atl. 506, 114 Me. 121. Here the court held that the holder of a mortgage is liable for storage charges, if the testimony shows that he consented to the warehouseman taking and keeping possession of the merchandise. See, also, the B— v. P—, 12 N.Y.S. 213.

(Please Turn to Page 93)

and Firms are Arranged Alphabetically

HARRISBURG, PA.

INC. 1902

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Low Insurance Rates

Within the Law

(Continued from Page 86)

Generally speaking, if the holder of a mortgage does not expressly consent to pay the storage bill, the warehouseman's lien for storage charges is secondary to the mortgagee's lien. See 216 N.Y.S. 290 to this effect, and also 85 N.Y.S. 891. Rather than rely upon a mortgagee's consent to keep the goods in storage, the warehouseman should either at once dispose of the mortgaged stored goods, or have the mortgagee sign a contract to pay the accumulated storage and other charges.

TRANSPORTATION

Is common carrier liable for loss of merchandise as carrier or warehousemen?

Recently a reader wrote as follows: "Our company operates transportation motor trucks, as a common carrier. Also, our company owns and operates a warehouse. Last week we transported merchandise to this city and the truck arrived too late to make delivery to the consignee. We parked the truck in our warehouse garage which burned that night. There is no proof that the fire origin-

ated through our negligence. Nevertheless both the consignor and consignee insist that our company is liable for the loss. We maintain that as the truck was in our warehouse garage when the fire destroyed the goods, we are not liable as a common carrier but that our liability is reduced to that of a warehouseman, and since no proof is given that the fire was caused by our negligence we are not liable for the value of the destroyed merchandise. What is your opinion?"

The answer is: Modern higher courts consistently hold that the liability of a common carrier continues after the transported goods have arrived at their destination and until the consignee has been notified of their arrival and has had a reasonable time to call for and take them away. Another point of established law is: If the consignee of the goods refused delivery, or otherwise authorized the carrier to act as warehouseman, the carrier's liability is reduced to that of ordinary warehouseman.

The leading case is D—Co. v. O—Transfer and Storage Co., 143 Pac. (2d) 441. Here it was shown that a common carrier started to make delivery one evening but it

was too late to unload the merchandise when the truck arrived at the point of destination. The shipper or consignor authorized the carrier to keep the merchandise in its garage over the night. During the night the merchandise was destroyed by fire.

The question presented the court was whether the loss of the goods through no negligence on the part of the carrier relieved it from liability, as a warehouseman? The court held that the carrier's liability was automatically converted to that of a warehouseman. The court said:

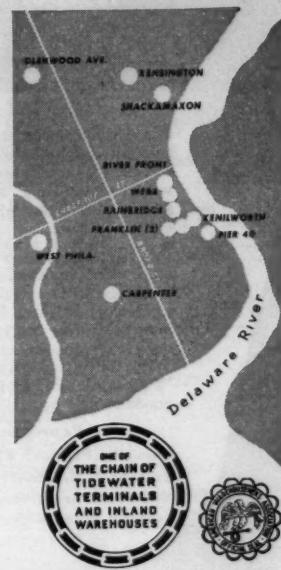
"Having concluded that the status of the carrier became that of a warehouseman, the duty was then cast upon the shipper to go forward and show that the fire resulted from some negligence of respondent."

This decision is unusually important because this common carrier did not operate a warehouse. However, the fact that the consignor authorized the common carrier to delay delivery until the following morning and keep the goods in the common carrier's garage during the night resulted in the ordinary liability of the common carrier being automatically converted into the liability of an ordinary warehouseman. Hence unless the testimony proves that negligence of the carrier's employees resulted in the fire, which destroyed the merchandise,

(Please Turn to Page 100)

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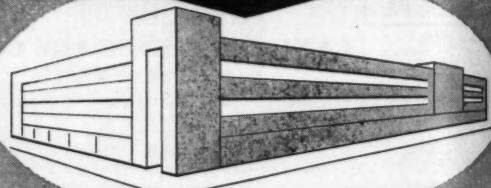
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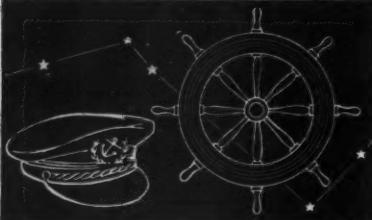


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the carrier cannot be held liable.

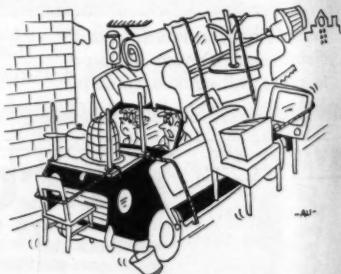
On the other hand, assume that the common carrier had driven its truck, with the merchandise, in its garage without authority of either the consignor or consignee to delay delivery of the merchandise to the consignee. Under these circumstances the liability of the common carrier would have remained unchanged and it would have been liable for loss of the merchandise by fire, irrespective of testimony proving that the fire resulted from negligence of the carrier's employes. In other words, so long as the common carrier's status as a common carrier remains unchanged by acts or authority of either the consignor or consignee, the carrier cannot claim a reduction in its normal liability and responsibility.

What is legal distinction between liabilities of a carrier and a warehouseman?

It is well settled law that a common carrier is practically an insurer of the safe arrival of goods which it accepts for transportation. In fact, the carrier is liable for all loss resulting from its own negligence, as well as against all other loss or damages, except such as may be caused by the act of God, a public enemy of the United States, the act of the shipper, or the inherent or peculiar nature of the goods.

Although the damage is due to one of these latter mentioned causes, the common carrier still is liable for any damage which may result by its failure to exercise reasonable care to protect the shipment from such loss or damage.

Obviously, a warehouseman may be liable as a common carrier of merchandise when, for example, he expressly or impliedly agrees to transport goods for the public generally. Moreover, a common carrier's liability may be reduced to that of a warehouseman whereby the carrier is not liable as an insurer, but only where the loss results from its lack of ordinary care.



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